SuperScript 100C Online User's Guide

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NEC Technologies, Inc.
339 North Bernardo Avenue
Mountain View, CA 94043

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NEC Technologies, Inc.
305 Foster Street Littleton MA 01460-2004 Tel: (508) 742-8000

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Preface

This non-impact printer is designed and constructed to give constant print quality for text and high resolution graphics, in color and in black and white.

The printer has a disposable print head, containing water-resistant ink, which uses "drop-on-demand" thermal ink jet technology. It produces a laser-like print density of up to 600 x 300 dots per inch (dpi) with minimal operating disturbance. The standard paper handling device allows the use of a wide range of paper and envelope types and sizes.

The printer can be connected to personal computers with a standard Centronics parallel interface. The resident firmware contains two emulation's: PCL III + and IBM<N>Proprinter X24 4207/1. Compatible with MS-DOS and MS-Windows environments, as well as other commonly-used software applications, it can be used in most Word Processing and Desk-Top Publishing environments.

The Structure of the Manual

This user manual is divided into two parts: a Quick Start, which contains the essential information for installing and operating the printer, and a User Guide, divided into chapters, which contains more detailed information on the printer's features and functions. The manual also contains a glossary of terms and an alphabetical index.

Quick Start

- Unpacking
- Identifying the printer parts
- Connecting your printer
- Inserting the print head
- Loading paper
- Printing the "demo" page
- Installing printer software
- Help

User Guide

Chapter 1 - User Interface
Embossed template, containing common error conditions and print head insertion procedure. Operator panel, giving the functions of the light indicators (LED's) and keys.

Chapter 2 - Ink Jet Print Head
How to insert/remove the ink jet print head in/from the printer, how to clean it and preserve optimum print quality. How to obtain the "demo" page.

Chapter 3 - Paper
Characteristics of the paper that can be used in the printer.

Chapter 4 - Using Software
How to change the printer settings via the printer driver settings or the printer set-up utility.

Chapter 5 - Troubleshooting
Troubleshooting guide, indicating common problems and their solution.

Appendices
Options and product characteristics.

Refer to the appropriate chapter of the user guide whenever you encounter a problem.

QUICK START

This section is a rapid guide for installing your printer and preparing it for use. It contains a sequence of operations which should be performed in the order prescribed.

- Unpacking 2
- Identifying the printer parts 3
- Connecting your printer 4
- Inserting the print head 5
- Loading paper 7
- Printing the "demo" page 9
- Installing printer software 10
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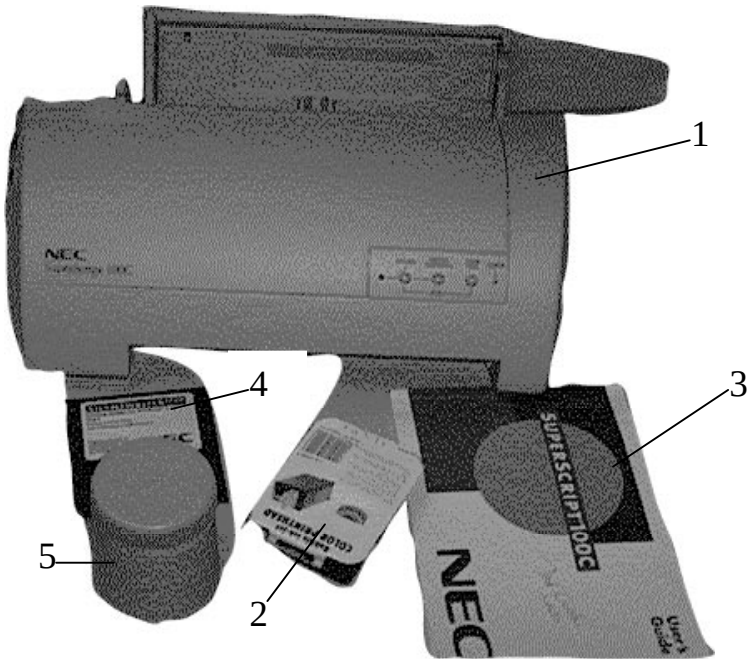
More detailed information about the printer and its functions is given in the User Guide.

Unpacking
Keep the carton and all the packing materials in case you have to repack or ship the printer.

As soon as you have removed the printer and its accessories from the packing carton, check that all the parts ordered have been delivered and are undamaged.



1. Printer
2. Ink jet print head
3. User manual
4. Driver diskette(s)
5. Garage for storing print head

If anything is missing or damaged, call your local retailer immediately.

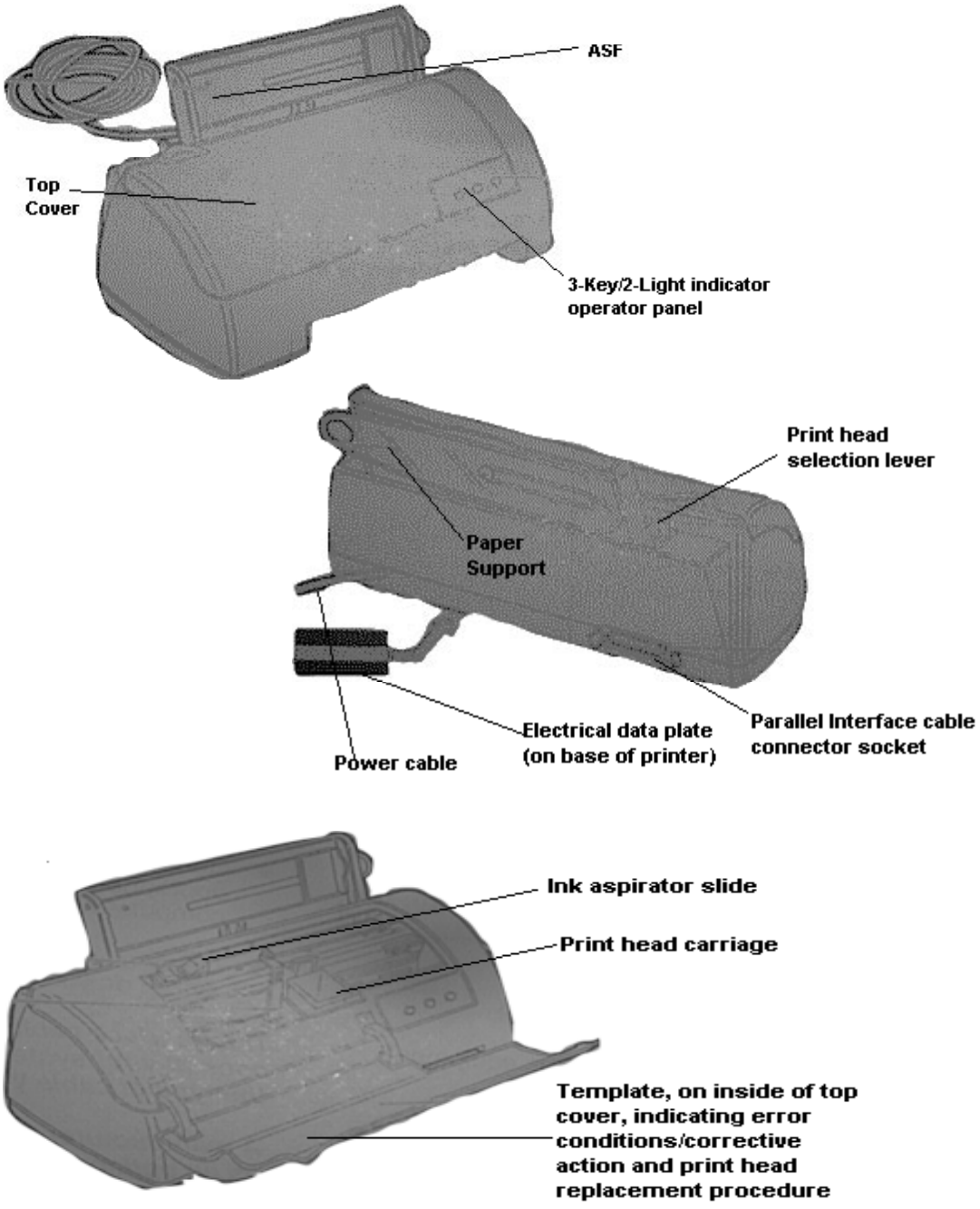
The interface cable for connecting the printer to your PC is NOT supplied with the printer.

Place the printer on an ample, stable surface near your computer or work station.

Make sure that there is enough space around the printer for all its parts to be accessed comfortably.

Make sure that there is a convenient independent electrical power supply socket to which you can connect the printer.

Identifying the Printer Parts


ASF
Top Cover
3-Key/2-Light indicator operator panel
Print head selection lever
Paper Support
Electrical data plate (on base of printer)
Parallel Interface cable connector socket
Power cable
Ink aspirator slide
Print head carriage
Template, on inside of top cover, indicating error conditions/corrective action and print head replacement procedure

Connecting Your Printer

To the electrical power supply

Your printer has no ON-OFF switch and is powered as soon as you connect it to the electrical power supply, so make sure that it is on a stable surface and that the top cover is closed. After approximately 2 minutes of inactivity, the printer will go into "standby" mode in which both light indicators are off and the print head is
in its rest position at the left hand end of its path.

Make sure the power supplied has the voltage indicated on the electrical data plate on the base of the printer. If the electrical data plate indicates a different voltage, call your local retailer immediately. DO NOT, UNDER ANY CIRCUMSTANCES, CONNECT THE PRINTER TO THE ELECTRICAL POWER SUPPLY.

Make sure that the plug on the power cable of the printer is of the type accepted by the wall socket you intend to use; if it is not, call your local retailer.

Do NOT attempt to change the plug yourself.

The manufacturer declines all responsibility for accidents to persons or damage to the printer arising from the non-observance of this warning.

- Plug the printer power cable into a wall socket.

The socket outlet shall be installed near the equipment and shall be easily accessible.

The printer will execute a series of internal checks and a mechanical reset. It will be in ON LINE condition (On Line LED lit).

To your computer

Make sure your printer is NOT connected to the electrical power supply and that your computer/host system is switched OFF.

- Plug the interface cable connector into the socket on the rear of the printer and, if
  necessary, close the spring clips on it.

- Connect the other end of the interface cable to the appropriate interface connector socket (port) on your computer/host system.

- Connect your printer to the electrical power supply and switch on your computer.

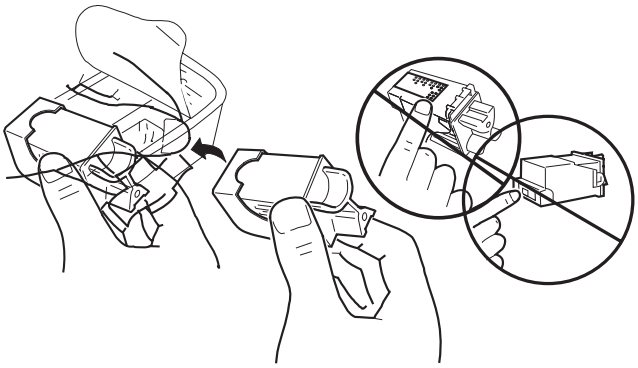
The interface cable is not supplied with the printer; consult your systems engineer or retailer for advice on the type of cable you require. A manufacturer-recommended interface cable is available as an option.

Inserting the Print Head

See the instructions embossed on the inside of the top cover (and illustrated in Chapter 1 of the User Guide)

- Open the sealed print head container and remove the instructions leaflet and the print head, holding it by the thumb and finger grip (end opposite the protective film).

Do not touch the electrical contacts or sit the print head on them.



- Remove the protective film.

Do not touch the printing nozzles or sit the print head on them.
Insert picture

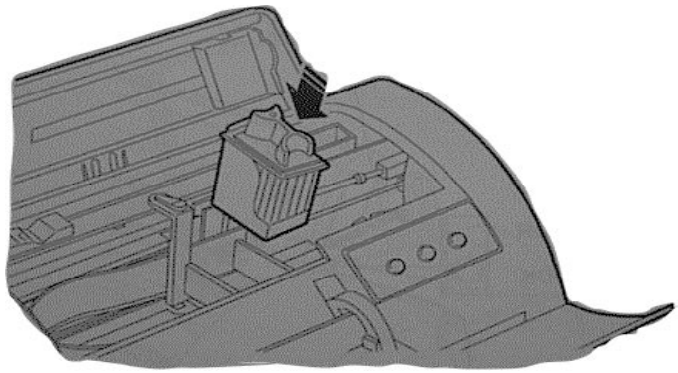
- With the printer already powered, press the Install Cartridge key on the operator panel to position the print head carriage in the head loading position. The LED's on the operator panel will both start flashing.

If you do nothing for 60 seconds, the print head carriage will return to its rest position*. To return the print head carriage to the head loading position, you must press Install Cartridge again.

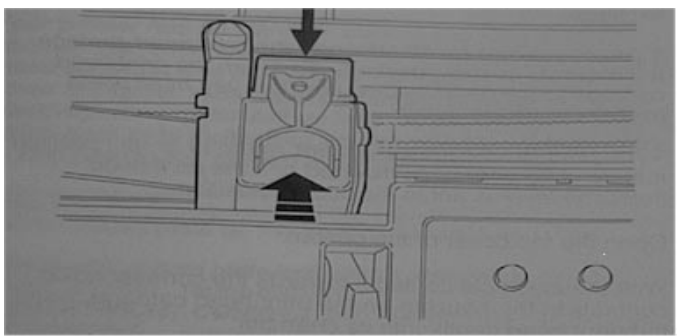
* The print head carriage will not return to its rest position if there is no print head inserted or if the print head selection lever is not in the correct position.

- Open the top cover of the printer.

- With the electrical contacts towards the corresponding contacts in the housing on the print head carriage, insert the print head gently into its chamber.

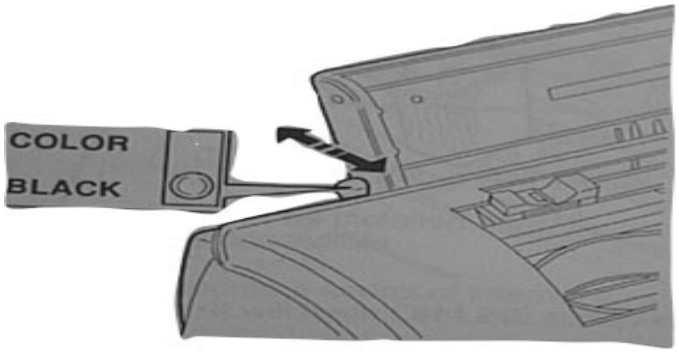


- Holding the lip at the rear of the print head insertion area, push the print

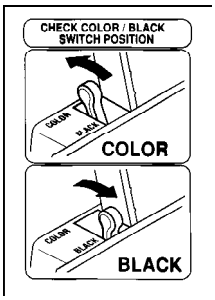


head towards the rear of the printer to fix it in place.

- Check that the position of the print head selection lever, to the left of the ASF, is compatible with the type of print head you have inserted.



The lever positions are marked on the printer casing in front of the lever:



The lever must NOT be forced and must be moved ONLY when the print head carriage is in the loading position.

- Press the Install Cartridge key on the operator panel. The print head carriage will move to the print head rest position, at the left hand side of the printer.

- Close the top cover

See Chapter 2 in the User Guide for further details on the handling and care of the ink jet print head.

Loading Paper in the Printer

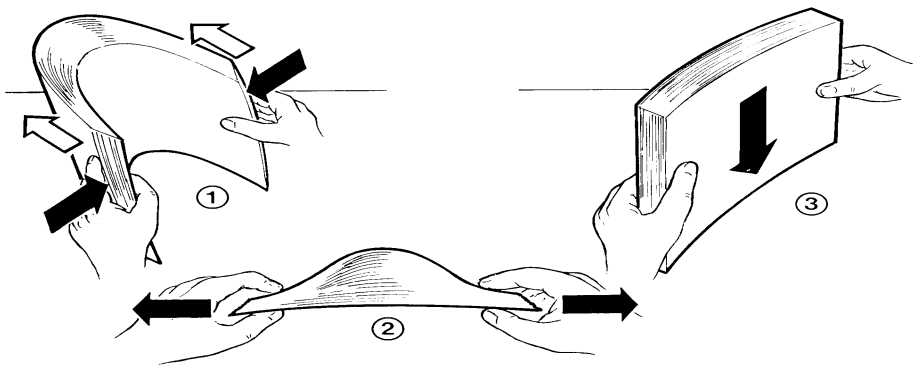
- Pull out the extendible top guide (1) on the ASF and rotate it up to its vertical position (2), to support the paper loaded.

Insert picture

- Holding the tab on the right edge of the movable guide on the ASF, pull the guide slightly forwards and move it to its extreme right position (physical right hand margin).

Insert picture

- Fan the paper thoroughly.



- Align the paper against the fixed left hand guide and load it into the tray, pushing it down carefully until it stops against the feed rollers inside the printer.

Do NOT add paper to the ASF; always remove any existing paper and fan it together with the paper to be loaded.

- Position the right guide against the right edge of the paper.

- With the printer powered, press Form Feed. The paper moves to the Top of Form (TOF) position. Press Form Feed again, to make sure that the paper feeds smoothly through and exits from the printer, without crushing or skewing.

See Chapter 3 in the User Guide for further information on the types of paper you can use and the page layout.

Printing the "Demo" Page

With the printer powered, print head installed and paper loaded:

- Press and hold the On Line key, and press the Install Cartridge key (for at least 2 seconds) on the operator panel.
- A sheet of paper will be fed into the printer and the "demo" page will be executed automatically.
- Release the keys only after printing has commenced.

Do not open the front cover of the printer while printing is in progress.

Once the "demo" page is printed, the printer returns On Line.

To print another "demo" page, press and hold On Line and then press Install Cartridge (for at least 2 seconds).

To suspend printing temporarily, press On Line (pressing this key a second time will cause printing to continue).

The "demo" page lists the principal features of your printer and contains a nozzle test that gives a graphic representation of the functioning of the print head.

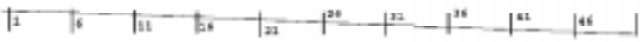
The "demo" page contents may vary with respect to that illustrated here, but this will not affect the functioning of your printer in any way.

If you have inserted a color print head, the same key sequence will cause the same "demo" page to be printed in color.

Enjoy using ...

... your personal printer

	Up to 3 ppm	High Speed
	US Letter, Legal, A4 Standard paper and Special media	Multiple Paper Handling
	Rechargeable printhead Economy mode	Low Cost Printing
	Multi emulation (PCL3, IBM)	Broad Environment Coverage
	MS Windows, Dos OS /2 compatible	Software Compatibility
	Colour kit with intelligent colour driver	Full Colour Printing



Installing Printer Software

The diskette supplied with your printer contains the SuperScript™ 100C high quality color printer driver.

For Windows® users: to work in Windows® 3.1/3.11 or Windows® 95 environment, you MUST first install the driver. This driver gives you access to all the printer features.

For DOS users: please refer to the chapter "Using Software" in the User Guide.

The contents of the diskettes guarantee compatibility with the specific operating environments and provide a user-friendly interface for programming the printer. The diskettes have a "Read-Me" file and requirements and last minute information on your driver. This file should be read BEFORE installing your driver (for Windows® 3.1/3.11 users, open the file through the "Write" application; for Windows® 95 users, through "WordPad" specifying the file name README.WRI).

Before installing any printer driver, we recommend that you make a back-up copy of the original diskettes and then use this copy for the installation procedure. This will allow you to keep the original diskettes as masters so that, should any problem arise with the back-up copy, you can make another copy.

Installing the SuperScript 100C color printer driver

System requirements:

- Windows 3.1 or later,
- PC 386 or later with at least 2 MEGA Bytes of RAM,
- 1 MEGA Bytes of free disk space.

Installation procedure in Windows® 3.1/3.11 environment

To choose the driver language you require and then install the driver, proceed as follows:

1) Insert the specific diskette in drive A of your PC.
2) Activate Windows® environment (if necessary, consult your Windows® user manual).
3) Now activate the Control Panel in the Main group, clicking twice with your mouse indicator on the corresponding icon.
4) Select the Printers icon, in the same way.
5) If the Installed Printers box is empty, click on Install..
6) If the Installed Printers box already contains one or more driver names, click on Add, select Install Unlisted or Updated Printer in the List of Printers and then click on Install… .
7) Check that the Install Driver window already indicates the drive (usually A) in which you have inserted the driver diskette, otherwise, click on the drive name and change it, using your PC keyboard.
8) Click on OK to display the driver name.
9) The Install Driver window will now show the driver you have selected; click on.

10)The Add Unlisted or Updated Printer window contains the list of drivers present on
the diskette. Select the driver with your printer name and click on OK.

11)Your driver is now installed and your printer name appears in the List of Printers.

12)With your printer name highlighted, click on the Set as Default Printer button, so
that your printer will be active in all your Windows® applications.

13)Check your printer connection by clicking on the Connect.. button. By default, your
printer will be connected on the LPT1 port which corresponds to the hardware connection of a parallel interface cable.

14)Click on the Close button of the Printers dialogue box.

For further information, consult your Windows® 3.1/3.11 documentation.

Installation procedure in Windows® 95 environment

To install the driver using the Plug and Play feature, proceed as follows:

Your printer must be powered, connected to your PC and NOT in error mode (no LED's Flashing).

1) Insert the diskette in drive A of your PC.

2) Activate Windows® 95; if already active, execute the "shut down" command and select restart (if necessary, consult your Windows® user manual).

3) A window, indicating that a new peripheral has been detected (New hardware found and the printer name), is displayed.

The same window shows the Driver from disk provided by hardware manufacturer option
already highlighted. Click on the OK button.

4) With the Install from Disk window displayed, insert the specific driver diskette in the drive selected, specify this drive and click on OK.

5) Your printer name is displayed in the Select Device window. Click on OK.

6) The Add Printer Wizard window is displayed. If there are no printer drivers already installed on your system, your printer will be installed as the Default printer. If other drivers are already installed, you will be asked if you want to use this printer as the default. Click on Yes.

7) Click on Next. The same window will prompt you to print a Test Page. Click on Yes, if you want to be sure that the driver has been installed correctly. This page also gives you a list of all the files that have been copied into your system during installation.

8) Your driver is now installed. A window will ask you if the test page has been completed. An affirmative reply indicates that the driver is installed correctly.

For further information, consult your Windows® 95 documentation.

See Chapter 4 in the User Guide for more details on the drivers and printer setup.

Help!

To simplify the use of the printer, and to help you if you have problems, this printer has a template containing a series of operating instructions embossed on the inside of the front cover. The flashing of the two light indicators (LED's) signals the need for operator intervention. Should this occur, proceed as follows:

- Open the top cover of the printer.
- Check the position of the print head carriage, which will correspond to one of the four action items on the template:

1) Check paper,

2) Change color/black switch position,

3) Change ink cartridge,

4) Change print head.

Action items 2, 3 and 4 are illustrated on the template.

For full details, see the section entitled "Embossed Template" in Chapter 1 of the User Guide.

If you have problems with any operating procedure, or are unable to perform a specific function, always check that you have followed the instructions as given. If a repetition of the instructions is unsuccessful, see the section entitled "Problems and Solutions" in Chapter 5 of the User Guide.

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User Interface

Embossed Template

On the inside of the top cover of the printer, there is an embossed template. This template illustrates the operating procedure for changing the print head and how to adjust the print head position if you wish to print on envelopes. It also indicates four error conditions.

Error conditions and corrective action
The four error conditions are:

1. CHECK PAPER
   There is no paper in the ASF, or there is a paper jam. See Chapter 3 for the paper
   loading procedure and Chapter 5 for information on how to clear paper jams.

2. CHANGE BLACK/COLOR SWITCH POSITION
   The position of the print head selection lever is not compatible with the type of
   print head you have inserted. See Chapter 2 for information on the use of the print
   head selection lever.

3. CHANGE INK CARTRIDGE
   The print head (ink cartridge) requires replacing.
   See Chapter 2 - Replacing the Print Head.

4. CHANGE PRINT HEAD
   There is no print head in the printer, the type of print head you have inserted is not
   compatible with the printer driver selected, or the Install Cartridge key has been
   pressed. See Chapter 4 for information on monochrome/color printer drivers.

If one of these error conditions occurs, any printer operation is interrupted, the On Line and Power LED's start to flash and the print head carriage is positioned to indicate the action required.

If there is no operator intervention within 60 seconds(with a monochrome print head inserted) of the error being signaled, the print head carriage returns to its rest position. To return the print head carriage to the error indication, press Install Cartridge.

* 30 seconds, if you are using a color print head

** The print head carriage will not return to its rest position if there is no print head inserted or if the print head selection lever is not in the correct position.

Once you have corrected the error condition, press Install Cartridge to return the print head carriage to its rest position, so that the printer can resume operating.

Further information regarding these and other types of operating errors is available in Chapter 5 - Troubleshooting.

Print head replacement

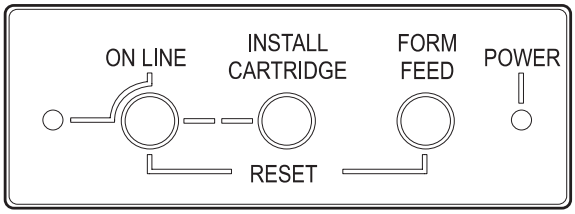
This part of the template illustrates the print head/ink cartridge replacement procedure. It is complementary to the description in the corresponding sections in Chapter 2.

Print head adjustment

This part of the template illustrates the adjustment switch, depending on the type of document you are using

Operator Panel

This section describes the functions of the keys and light indicators (LED's) on the operator panel.



The behavior of the keys and light indicators on the operator panel will depend on the printer's status:

Printer states:

- free: no data to be printed;
- busy: from the reception of data until the completion of its printing;
- standby: printer powered but dormant (more than two minutes have elapsed since last interchange with host).
- special function mode : operating mode independent of host.

Basic key functions

Function	Key	Description
Printer ready/Pause	On Line	When the printer is ON LINE, the On Line light indicator is lit and the printer can process and print data received from your computer. When the printer is OFF LINE (pause),the print head carriage returns to its rest position at the physical left margin. The On Line light indicator is off and any printing operation is suspended.
Print head positioning	Install Cartridge	The first time it is pressed, the print head moves to the head loading position (position 4 of the template). The second time it is pressed, the print head returns to its rest position (provided that the print head lever is in the correct position for the type of print head inserted. The lever must NOT be forced and must be moved ONLY when the print head carriage is in the loading position).
Paper load/ eject	Form Feed	Loads a sheet of paper to the Top of Form (TOF) position. If paper is already present in the printer, causes its expulsion to the output tray.

Special key functions

Function	Key(s)	Description
"Demo" page	On Line held + Install Cartridge (at least 2 s)	The "demo" page is printed. It will be in color or monochrome, depending on the type of print head you have inserted.
Print test	Press all three keys simultaneously release them only when the Power light indicator goes off, then press On Line three times	The print test is printed. It will be in color or monochrome,, depending on the type of print head you have inserted.
Reset	On Line held + Form Feed (at least 3 s)	Returns the printer to its power on condition. If done during data transmission/printing, the information is lost.
Hex dump Exit from Hex dump	Press all three keys simultaneously; release them only when the Power light indicator goes off. then press On Line, Form Feed and Install Cartridge,, in this order. On Line held + Form Feed	All subsequent data transmitted to the printer will be printed in its hexadecimal format. This feature should be used only under technical guidance, as it can generate extremely long print-outs. See Chapter 5 - Troubleshooting. Reset

Light indicator (LED) functions

LED's		Indication
ON Line	Power	
Lit	Lit	The printer is powered and ON LINE.
Off	Lit	The printer is powered and OFF LINE.
flashing slowly	flashing slowly	An error condition has occurred in the printer. Open the top cover of the printer to check the print head carriage position with respect to the action items embossed on the inside of the front cover. If the print head carriage indicates 1 CHECK PAPER there is no paper in the ASF or there is a paper jam. Load paper, or a document or an envelope, in the ASF, or remove the jammed document. If the print head carriage indicates 2 CHANGE COLOR/ BLACK SWITCH POSITION, the position of the print head selection lever is not compatible with the type of print head inserted. Correct the position of the lever.
flashing slowly	flashing slowly	If the print head carriage indicates 3 CHANGE INK CARTRIDGE, an "ink cartridge empty" ("end of ink") condition has occurred. Replace the print head. If the print head carriage indicates 4 CHANGE PRINT HEAD, there is no print head in the printer, the print head inserted is not compatible with the driver selected, or the Install Cartridge key has been pressed. Insert a print head, exchange the type of print head inserted, or replace the print head. After correcting the error condition, press Install Cartridge to return the print head carriage to its rest position. If there is no operator intervention within 60 seconds *(with a monochrome print head inserted; *30 seconds if a color print head is inserted) of the error being signaled, the print head carriage will return to its rest position **. To reread the error indication,, press Install Cartridge ** The print head carriage will not return to its rest position if there is no print head inserted or if the print head selection lever is not in the correct position.
flashing rapidly	flashing rapidly	Failure condition. Disconnect the printer from the power supply. Make sure the print head carriage and paper feed paths are not obstructed and then reconnect the printer to the mains power supply. If the light indicators continue flashing rapidly, disconnect the printer and call the technical assistance service or your dealer.

off	off	a) The printer is in standby mode (dormant), i.e. within the last two minutes, there has been no printer-host interaction nor operator action. To return the printer to its operating condition, just press a key or send a file to be printed. b) The printer is in the special functions mode, awaiting a key sequence activate a specific function.

Ink Jet Print Head

This chapter describes how to insert/remove the ink jet print head n/from the printer, how to clean the print head and preserve optimum print quality. It also describes how to obtain the print test.

Your printer can use a color print head or a monochrome print head.

ALWAYS use NEC-original Ink Jet Print Heads.

Replacing the Print Head

See also the instructions embossed on the inside of the top cover, and illustrated in Chapter 1.

The printer has an "ink detection" sensor which guarantees optimum printing quality by allowing the timely replacement of the print head.

When replacing the print head, take care not to touch the print head carriage shaft nor the area under the print head carriage.

Print head removal

The print head is removed to replace it, to change from a monochrome to color print head or vice versa, or to repeat its insertion (see the section entitled "Print head insertion" in the Quick Start), in the case of faulty printing.

When the printer is not powered or is in standby mode, the print head carriage is in its rest position (at the extreme left).

If the printer is already powered and a print operation is running, press the On Line key to interrupt printing BEFORE opening the top cover.

To return the printer to operating status, close the top cover and press the On Line key.

To remove the print head, proceed as follows:

- With the printer already powered, press <B><N>Install Cartridge to move the print head carriage to the head loading position (the Power and On Line LED's start flashing simultaneously).

  The print head carriage moves to correspond to error condition 4 on the embossed template (see Chapter 1) and both LED's start flashing. This position is held for 60 seconds (30 seconds if the printer has a color print head), after which the print head carriage returns to its rest position *. To return the print head carriage to the cartridge replacement position, just press Install Cartridge.

  * The print head will not return to its rest position if there is no print head inserted or if the print head selection lever is not in the correct position.

- Open the top cover.

- Pinch together the two lips on the rear of the print head carriage (behind the print head). The print head is released.

  Insert Image pg 2-2

- Remove the print head, pulling it upwards by its thumb and finger grip.
  Insert image pg 2-2

If the quality of printing is not optimum, do the print head clearing operation (see the section entitled Print Head Care in this chapter).

Print head insertion

For the description of the print head insertion procedure, see the specific section in the Quick Start.

If you have problems inserting the print head:

- Make sure the print head carriage is in the print head loading position.
- Check that the print head chamber is clean and free of foreign bodies.
- NEVER force the print head into the chamber.
- Always remove it completely and repeat the entire insertion operation.

The insertion/removal procedure for a color print head is the same as for the standard print head, but REMEMBER to position the print head selection lever for a color print head. The lever must NOT be forced and must be moved ONLY when the print head carriage is in the loading position.

Using a Color Print Head

The insertion/removal procedure for a color print head is the same as for the standard print head. Once you have inserted the color print head, you must set the print head selection lever (to the left of the ASF) to correspond to the color indication, before pressing Install Cartridge to return the print head to its rest position.

The lever must NOT be forced and must be moved ONLY when the print head carriage is in the loading position.

If you do not position the print head selection lever to correspond to the type of print head inserted, the print head carriage will not return to its rest position. It will be positioned to correspond to error condition 2 (see specific section in Chapter 1), and the On Line and Power light indicators will flash simultaneously.

Print Head Care

Always keep the print heads (ink cartridges) sealed until they are to be used.

Do NOT attempt to refill the print head with ink, as this damages the print head and the printer.

Always make sure that the print head is in its rest position BEFORE switching off your computer. When the printer is powered, the print head will automatically return to its rest position and go into standby mode after approximately two minutes of inactivity.

Printing the "demo" page

With the printer powered and in PCL III + emulation, print head installed and paper loaded:

- Press and hold On Line, and then press Install Cartridge(for at least two seconds) on the operator panel.
- A sheet of paper will be fed into the printer and the "demo" page will be executed automatically.
- Release the keys only after printing has commenced.
- Do not open the front cover of the printer while printing is in progress.

Once the "demo" page is printed, the printer returns On Line. Check the print quality, making sure that all the characters and images are clearly defined and complete.

If you have any problems running the "demo" page, check that you have followed the operating procedures correctly; if so, see Chapter 5 - Troubleshooting.

Clearing the print head nozzles

The print head clearing operation is performed to clean ONLY the print head nozzles of <BI>the monochrome print head<D>. If, after inserting a new monochrome print head or during a printing operation, the print quality is not optimal or deteriorates, execute the print head clearing operation to improve it.

Poor print quality is usually caused by air bubbles which block one or more of the print head nozzles; the print head clearing operation will remove any blockage.

If an "end of ink" condition has been signaled (print head in position 3), do NOT attempt to perform a print head clearing operation.

To clear the print head nozzles, proceed as follows:

- Set the printer OFF LINE the print head is in its rest position at the left hand margin and check that there is no paper inserted for printing.
- Open the top cover of the printer.
- Pressing down the ink aspirator slide (<PUSH>), move it backwards and forwards the full length of its shaft, until ink appears in the tube below the slide.
- Press Install Cartridge to move the print head carriage to the head loading position.
- Move the ink aspirator slide backwards and forwards to empty the tube.
  Insert picture pg. 2-5
- Press Install Cartridge to return the print head carriage to its rest position.
- Close the top cover.
- Press On Line to return the printer to ON-LINE state.

If the print head clearing operation does not result in improved print quality, reset the printer and then repeat the print head clearing operation.

Cleaning the print head

If you have not been able to solve the problem of printing quality with the print head clearing operation, try removing and cleaning the print head.

- Position the print head carriage in the head loading position, open the top cover, release and remove the print head (see the specific sections in this chapter).

- Clean the electrical contacts on the print head and in the housing on the print head carriage with a slightly damp lint-free cloth, taking care not to touch the print head nozzles.

- Re-insert the print head in the printer, close the top cover and press any key to return the printer ON-LINE.

If there is still no improvement in the print quality, try cleaning the print head nozzles.

This operation MUST NOT be repeated systematically, as it will damage the print head. It should ONLY be attempted as a last resort, before changing the ENTIRE print head.

- Dampen a tissue handkerchief with distilled water; squeeze it slightly to remove any excess water.

- Remove the print head from the printer (see the specific section in this chapter).

- Holding the print head with the nozzles facing downwards, blot it against the handkerchief, pressing lightly.

- Repeat the blotting operation a few times on different areas of the handkerchief, to clean the nozzles.

- Reinsert the print head in the printer and print the "demo" page to check the quality of printing (see the specific section in this chapter).

Paper

This chapter describes the types and characteristics of the paper you can use in your printer.

Types

Best results are obtained using good quality plain office paper, which has a paper weight of between of standard sheets>15.5 and 24 lbs. Using 21 lbs. paper, you can load up to 40 sheets in the ASF. For thicker documents (over 24 lbs.), the ASF capacity is 10 sheets).

Sub-standard paper can affect the quality of printing.

Make sure the paper is inserted in the paper tray so as to print on the right face of the page (see indication arrow on paper wrapping).

Printing on both sides of the paper may increase the risk of misfeeds or paper jams.

Dimensions

The following table contains the dimensions of the types of paper and envelopes which you can use in your printer:

Single Sheets (width x length)		Envelopes (width x length)	
A4	210 x 297 m 8.26 x 11.7 in	COM-10	104.7 x 241.3 mm 4.125 x 9.5 in
A5 (horizontal)	210 x 148.5 mm 8.26 x 5.85 in	DL	110 x 220 mm 4.33 x 8.66 in
US Letter	8.5 x 11 in 215.9 x 279.4 mm	C5	162 x 228mm 6.37 x 9 in
US Legal	8.5 x 14 in 215.9 x 355.6 mm	C6	114 x 162 mm 4.4 x 6.37 in
US Exec	7.25 x 10.5 in 184.2 x 266.7 mm	B5	176 x 250 mm 6.92 x 9.84 in
User-defined	105 x 80 mm, min. 4.134 x 3.15 in 220 x 356 mm, max. 8.26 x 16 in	B6	125 x 176 mm 4.92 x 6.92 in

Insertion

Automatic feed

The following documents can be inserted automatically from the ASF:

- standard format single sheets (up to 40 x 80 g/m2sheets),
- standard format coated paper (average 20 sheets),
- standard format thicker paper/envelopes (weight from 90 to 110<N>g/m2in packs of not more than 10 pieces).

Semi-automatic feed

The following documents are inserted semi-automatically (loaded one at a time in the ASF one at a time and inserted for printing using the Form Feed key):

- user-defined documents,
- special glossy paper,
- transparencies.
  Use only paper-backed transparencies (or film) specifically indicated for ink-jet printers (e.g. 3M CG-3480).

The document/envelope must not be crumpled or torn, otherwise it may jam or even not be inserted.

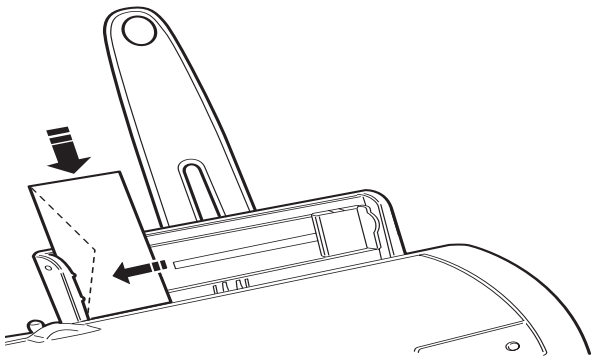
When using user-defined documents, remember to select the appropriate paper type in your printer driver (see Chapter 4).

Envelopes

If you intend to print on envelopes, you must first adjust the print head position. This operation is also indicated on the embossed template on the inside of the top cover (the template is illustrated in Chapter 1).

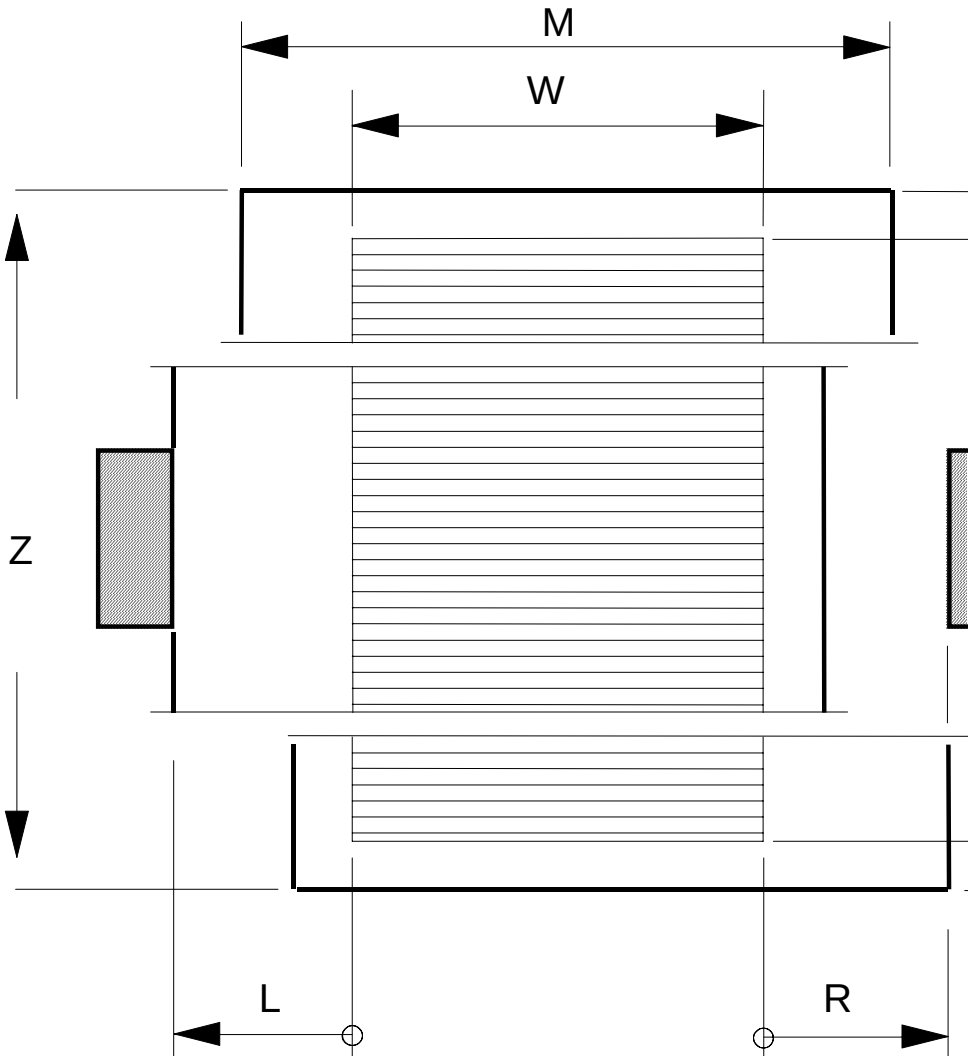
- Press Install Cartridge, to move the print head to the center of the carriage shaft (position 4),
- Open the top cover of the printer,
- Turn the knob attached to the left of the print head carriage counterclockwise to its horizontal position,
- Insert picture page 3-3
- Close the top cover,
- Press Install Cartridge again, to return the print head to its rest position.

Envelopes should be inserted with their short side as the leading edge. The printing side should be face up and the sealing flap underneath.



When using envelopes, remember to select a landscape font for printing (in Windows® environment, you will require TrueType fonts).

Print Area



The following tables give the measurements for the print area on the standard page and envelope sizes handled by the printer (all measurements are indicated in millimeters and inches). The printer can print a maximum of 67 lines on an A4 page with 6 lpi line spacing (the last line may be printed with slightly defective line spacing).

Single sheets

Format/ Measurement	A4	A5 (horiz.)	Letter/<R> Legal	US EXEC
M - (page width)	210 mm 8.26 in	210 mm 8.26 in	215.9 mm 8.5 in	184 mm 7.25 in
W - (max. print line length	203.2 mm 8 in	203.2 mm 8 in	203.2 mm 8 in	177.8 mm 7 in
L - (min. left hand margin)	3.4 mm 0.134 in	3.4 mm 0.134 in	6.4 mm 0.25 in	3.1 mm 0.125 in
R - (min. right hand margin)	3.4 mm 0.134 in	3.4 mm 0.134 in	6.4 mm 0.25 in	3.1 mm 0.125 in
T - (min. top margin)	1 mm 0.04 in	1 mm 0.04 in	1 mm 0.04 in	1 mm 0.04 in
B - (min. bottom margin	12.7 mm 0.5 in	12.7 mm 0.5 in	12.7 mm 0.5 in	12.7 mm 0.5 in

Your application may add its own default margins to your page layout, thus further reducing the print area.

Pre-printed documents MUST have at least a 5 mm margin before the first print position.

Use of documents that do not conform to the specifications indicated will result in crooked or incorrect insertion and feed-through, with a risk of jamming.

Envelopes

Format/ Measurement	COM-10	DL	C5
M - (width)	104.7 mm 4.12 in	110 mm 4.33 in	162 mm 6.37 in
W - (max. print line length)	98 mm 3.85 in	103 mm 4.06 in	155 mm 6.11 in
L - (min. left hand margin)	3.4 mm 0.134 in	3.4 mm 0.134 in	3.4 mm 0.134 in
R - (min. right hand margin)	3.4 mm 0.134 in	3.4 mm 0.134 in	3.4 mm 0.134 in
T - (min. top margin)	1 mm 0.04 in	1 mm 0.04 in	1 mm 0.04 in
B - (min. bottom margin)	21.3 mm 0.84 in	21.3 mm 0.84 in	21.3 mm 0.84 in

Format/ Measurement	C6	B5	B6
M - (max. width of sheet)	114 mm 4.4 in	176 mm 6.92 in	125 mm 4.92 in
W - (max. print line length)	107 mm 4.22 in	162 mm 6.37 in	118 mm 4.65 in
L - (min. left hand margin)	3.4 mm 0.134 in	3.4 mm 0.134 in	3.4 mm 0.134 in
R - (min. right hand margin)	3.4 mm 0.134 in	3.4 mm 0.134 in	3.4 mm 0.134 in
T - (min. top margin)	1 mm 0.04 in	1 mm 0.04 in	1 mm 0.04 in
B - (min. bottom margin)	21.3 mm 0.84 in	21.3 mm 0.84 in	21.3 mm 0.84 in

Using Software

This chapter explains how to change the printer settings by varying them in your printer driver or using the printer set-up utility contained on the diskettes supplied with the printer.

Your printer has a number of parameters which you can define according to your specific requirements. Your printer driver contains most of these parameters which can be defined when you install the driver.

Modifying the Settings in Your Printer Driver

The SuperScript™ 100C color printer driver supplied with your printer optimizes all its features and functions. First install the driver (see Quick Start) and then check that its default parameters are suitable for the type of document you wish to create.

Reconfiguring the SuperScript™ 100C driver

Access to the printer parameters in the driver varies slightly, depending on your application environment:

In Windows® 3.1/3.11:

1. Using your mouse, access Control Panel, though Program Manager and Main,

2. In Control Panel, open the Printers dialogue box, in the same way,

3. Check that your printer is selected (if not, select it),

4. Click on Setup:

In Windows® 95:

1. Using your mouse, click on Start in Desktop,

2. In the Configuration - Printers folder, highlight your printer model,

3. Click on the right button of your mouse,

4. Click on Properties, and then on the Paper tab.

At the top of the window displayed when you click Paper, are the following icons: Automatic, Business, Photos, Art, Draft, User. Below these icons are parameters for Paper Size, Paper Type, and Paper Source. Finally, in the lower third of the dialog, are Number of Copies and Orientation settings.

At the bottom of the window, there are five buttons marked Clicking on the next tab to the right, Quality, reveals the Half-toning and Print Quality settings. The last tab, Color contains Image and Color Match parameters.

At the bottom of the window, there are six buttons marked About, Restore Defaults, OK, Cancel, Apply, and Help, Clicking on:

About	Gives publication details of the software
Restore Defaults	Restores the default values for the all parameters,
OK	Confirms/saves all the parameter values and exits from the Setup environment.
Cancel	Ignores any changes made and causes exit from the Setup environment,
Apply	Applies all changes made prior to selection,
Help	Gives access to more detailed information on the individual parameters in the current window.

To change any parameter values, just click on the value or feature you require. To move from one parameter group to another, just click on the appropriate folder tab at the top of the window; the parameter group selected is activated and displayed automatically.

When you have made the all changes you require, click on OK at the bottom of the window, to save your new configuration and exit from the Setup environment.

Parameter group contents

- Paper Size/Source:

  - ❖ Paper Size: A4, Letter, Legal, A5, Executive, COM10,
  - ❖ C5, DL, User-Defined (default setting: A4 or Letter,depending on country).

  - ❖ Paper Source: Auto Sheet Feeder, Manual.

  - ❖ Portrait or Landscape.

  - ❖ Copies: Collate or Reverse Page Order.

- Paper Type/Print Quality

  - ❖ Paper Type: Plain Paper, Transparency, Glossy Paper, Coated Paper.

  - ❖ Print Quality: Standard, Draft (High Speed), Economy, High Quality, Presentation.

  This group of values is disabled, if Automatic (default value) is selected in the parameter group Document Type.

- Document Type

Automatic, Monochrome Report, Color Report, Greyscale Picture, Color Picture, Draft Printing.

- Print head/Resolution

  - ❖ Print head: Monochrome, Color (CMY).

  This group of values is disabled, if Automatic (default value) is selected in the parameter group Document Type.

  - ❖ Resolution: 600 x 300, 300 x 300, 150 x 150, 75 x 75 dots per inch.

Dithering

No Dithering, Line Art Pattern, Fine Pattern, Coarse Pattern, Standard Spray, High Quality Spray, Presentation Quality Spray.

This group of values is disabled, if Automatic (default value) is selected in the parameter group Document Type.

Image Settings

- ❖ Image: Brightness and Contrast (two sliding bars).

- ❖ Enable Ink Density Correction (enabled; click on box to disable).

- ❖ Color Balance: Saturation, Red Intensity,
- ❖ Green Intensity, Blue Intensity (four sliding bars).

- ❖ Color Match (enabled; click on box to disable).

Help

Each active window in the driver setup has an extensive module of detailed information which can be accessed by clicking on the Help button at the foot of the window.

Document type

If the parameter value Automatic is selected in this menu, the Print Quality, Printhead and Dithering menus are disabled. The values for these parameters will be set automatically.

Fonts

Scalable and/or TrueType fonts are available when you operate in a Microsoft Windows environment, level 3.1 or later. These fonts are stored mathematically as character and symbol outlines and are expanded only when the specific font is selected.

You cannot use the printer's resident fonts in Windows environment. You must use the fonts available in Windows.

Print quality

High Quality (LQ)	gives a combination of speed and good
Presentation	gives best quality at a lower speed
Draft	gives fast printing
Economy	saves ink

Paper type

If you select Transparency, output will be LQ, regardless of the print quality parameter setting selected.

DOS Environment

If you use a DOS Software program, you will require a specific driver for each printer model and application to access the main features of your printer. Ask your computer dealer for advice.

To install any of the drivers, always refer to the specific software application documentation. Should any of the parameters you require not be accessible through the driver, you can access them using the printer SETUP utility.

Your printer has two resident emulation's: PCL III + (default value) and IBM Proprinter X24 Model 4207/1 that may be used with DOS applications:

PCL III + mode:
Choose the PCL III + driver when setting your application software. If PCL III + is not available, choose HP DeskJet 500C or HP DeskJet 500. The PCL III + mode supports both color and black printing.

IBM Proprinter X24 mode:
Choose the IBM Proprinter X24 Model 4207/1 driver when setting your application software. Note that this mode only supports black printing with the black print head. Attempting to print with the color print head installed will result in an error condition. The "demo" page is not available if this emulation is selected.

Running the Printer Set-Up Utility

This program is aimed at DOS-based applications. It should be used if the feature you require cannot be selected through the driver you have installed or if no driver is available.

We suggest that you make a copy this program on another diskette, and keep the original as a master.

Note for Windows® 95 users

If you have Windows<190> 95 installed on your PC, BEFORE running the SETUP utility, you must disable the DOS spooler, as follows:

1. In the Printers folder, select your printer then Properties tab.

2. In the Details sheet, click on the Port Settings button.

3. A window entitled Configure LPT ports opens, with the option Spool MS-DOS print jobs selected.

4. Click on the box, to deactivate the option. This will enable the DOS application to handle the port directly.

5. Close Windows® 95.

To re-enable the "Spool MS-DOS print jobs" feature, just repeat the above procedure.

To run the SETUP utility, proceed as follows:

Insert the diskette containing the SETUP utility in drive a (usually) of your computer.

At the DOS prompt, type A:\ (or B:\)STUP100C.EXE, and press ENTER.

The program will read the printer's identification code and its internal settings. It will then display this information on your PC screen.

If you click on Change Parameters, the parameter group selection screen for the emulation currently selected is displayed.

You can now select, one at a time, the parameter groups containing the feature(s) you wish to change.
See also Appendix B for a complete list and description of the parameters available.

If you click on Factory Default, you restore the default settings within the emulation currently selected.

If you click on Quit, you abandon the SETUP utility and return to DOS. If any settings were changed, you will be prompted to "Save setup into printer?".

The parameter settings defined in the driver always have priority over the settings made using the SETUP utility.

Troubleshooting

This chapter contains a troubleshooting guide which indicates some of the problems which may occur during the day-to-day use of your printer, together with suggestions for their solution. Your printer is designed to require only minimum maintenance. However, everyday use will give rise to a number of simple printer-care operations.

If you detect serious mechanical damage to or a failure in the printer, do not attempt to repair it yourself! CALL THE TECHNICAL SUPPORT CENTER.

General Care

1. Environment

- Keep your printer in a stabilized, ventilated environment (temperature range: 5 to 35°C; relative humidity: 15% - 85%).
- Do not subject your printer to abrupt changes in temperature and/or humidity.
- Do not let dust accumulate on the printer casing. Use a slightly damp cloth to remove dust.
- Do NOT use abrasive or corrosive cleaning fluids to clean the printer casing.

2. Transportation

- Always make sure that the print head is in its rest position. To ensure this, always unplug your printer BEFORE switching of the host to which it is connected.
- Take care not to drop your printer.
- Repack your printer in its original carton, whenever possible.

Error Conditions indicated by Print Head Position

On the inside of the top cover, there is an embossed template which, as well as illustrating the print head insertion/ replacement procedure, indicates the most common reasons for an interruption in the printer operation (the template and its contents are illustrated in Chapter 1).

When an error occurs, printing stops, On Line and Power LED's flash simultaneously and the print head position will correspond to one of the action items indicated on the embossed template:

1. Check paper

2. Change black/color lever position

3. Change ink cartridge

4. Change print head.

Correct the error and then press Install Cartridge to return the print head to its rest position.

Problems and Solutions

If you have problems while working with the printer, check through the following list, to see if you can find the cause of the problem.

If a printer malfunction other than those indicated below occurs, or if, after executing the suggested corrective action, the problem persists, call your retailer or the Technical Support Center.

During normal printer operation, an error condition will be signaled by the simultaneous flashing of the On Line and Power LED's. When you open the top cover

of the printer, the print head carriage will be positioned above the corresponding action item on the embossed template.

Installation

1. Missing or damaged parts.

- Contact your retailer immediately.

2. Printer is not powered.

   No power supply (no LED's are lit).

- Check that the printer is connected properly to the power supply socket.

If no LED's are lit, but the printer is powered, it is in standby condition. Press any key to return the printer to its operating status.

3. No initial reset.

When the printer is plugged into the electrical power supply, the print head carriage does not move.

- Check that the carriage path is free of impediment.
- Try disconnecting the printer from the power supply and then plugging it in again.
- If the Power and On Line LED's are flashing rapidly, there is a failure on the mother board; call the technical assistance service.

4. Demo page did not run.

- If the carriage does not move, check that its path is not obstructed.
- Disconnect the printer from the electrical power supply and then plug it in again. Repeat the key sequence.
- If the Power and On Line LED's flash simultaneously, open the top cover to check the position of the print head carriage, which will have moved to indicate the operator action required:
  - ❖ there is no paper in the printer; load paper in the ASF and press Form Feed on the operator panel.
  - ❖ the print head (ink cartridge) needs replacing; follow the instructions given in the appropriate sections in Chapter 1, to replace the print head/ink cartridge.
  - ❖ check that the print head is inserted correctly; if it is not, remove and reinsert it. Remember to press Install Cartridge once you have reinserted the print head.

5. Problems with connection to host.

- Check that your interface cable is of the correct type.
- Make sure you have fixed the interface connectors properly both to the printer and to the host.
- Check that you have configured your application correctly (see the driver installation procedure in Chapter 4 and your application manual).

Paper

Precautions

- The paper must not be crumpled or torn, otherwise it may jam or even not be inserted. Always use paper in perfect condition and within the specifications defined (see Chapter 3).

- Make sure the paper feeds smoothly, and that it is not held too tightly nor has too much play.

- If you remove the paper from or add paper to the ASF, you MUST repeat the entire paper loading operation.

- Always make sure there is no paper inserted for printing before disconnecting the printer from the mains power supply or before doing the head clearing operation (see the section entitled "Clearing the print head nozzles" in Chapter 2).

- Printing on both sides of the paper may cause smudging.

No paper

- If, on a print command, there is no paper to load in the printer, the Power and On Line LED flash slowly.

- To clear this condition, load paper in the ASF and press Form Feed.

2. Paper does not load.

Check that the size and weight of the paper used are within the limits allowed. Press Form Feed, then repeat the paper loading operation.

- If you removed the paper from the ASF, you must press Form Feed, repeat the entire paper loading operation and then press Form Feed again.

- Make sure the paper is not feeding in crookedly.

- Paper jamming - point 4 in this section.

- Make sure the correct paper feed parameter is selected in your printer driver, load paper in the ASF and press the Form Feed key on the operator panel.

3. Single sheets/envelopes not loaded (or loaded incorrectly).

- The document/envelope has been positioned incorrectly for insertion.

- Make sure the correct paper format parameter is selected in your printer driver.

- The print head adjustment lever is positioned incorrectly for the type of document you are using (see the section entitled "Envelopes" in Chapter 3).

- Preprinted documents must have a clean 5 mm margin before the first print position.

- Document is being fed with a reduced linefeed, causing overprinting of successive print lines. ASF feed mechanism is not synchronized correctly.
- Remove all the paper from the ASF, press Form Feed and then reload the paper in the ASF.

. Paper jams or tears.

- The most common causes of paper jamming in the ASF is the addition of paper when the tray is not empty and/or the incorrect loading of paper.

- When adding paper to the ASF, ALWAYS remove any paper already present and reload it all as a single pack.

- After clearing a paper jam, ALWAYS remove any paper still in the ASF, press Form Feed and then reload the paper.

- If the paper has already exited from the print area:
  - ❖ set the printer OFF LINE (On Line LED off)
  - ❖ open the top cover and remove the jammed paper.

To resume printing, close the top cover and the paper tray, and then press On Line.

- If the paper jams in the ASF:
  - ❖ disconnect the printer from the mains power supply
  - ❖ remove the damaged page(s) from the ASF. Remove the rest of the paper, fan and square it and then reload it in the ASF.

- Do not attempt to print on small adhesive labels attached to larger size glossy paper (e.g. A4 format). This type of label tends to detach during printing and recovery from inside the printer is difficult.

5. Incorrect stacking.

- Too many sheets of paper in the output tray. The output tray can contain up to 40 standard weight printed pages.

Heavily printed pages tend to curl and may not stack correctly. They may also stain the rear of the page stacked over them, as they require longer to dry. Always remove such pages from the output tray as soon as they are expelled from the printer.

Print head

When changing the print head, take care not to touch the print head carriage shaft nor the area under the print head carriage.

1. Printer does not print

- Check that you have removed the protective film from the print head.

2. Print head carriage does not return to the rest position after a replacement operation.

- Check that the position of the print head selection lever corresponds to the type of print head you have inserted.

- Check that nothing is blocking the carriage path.

3. Characters are faint.

- Execute the print head clearing operation to clean the nozzles.

Make sure there is no paper in the printer.

Check that the print head carriage position lever is compatible with the type of document being printed.

4. Missing dots
If dots or lines are not printed completely, remove the ink jet print head and reinsert it, or:

- Execute the print head cleaning operation.

- Execute the nozzle clearing operation.

- Clean the electrical contacts on the print head and those in its chamber.

For all these operations, see the appropriate sections in Chapter 2.

After cleaning the print head or executing the nozzle clearing operation, print a "demo" page to check the print quality. If the print quality is still not acceptable, run a print test.

To run the print test, proceed as follows:

- Make sure that the print head is inserted and that there is paper in the ASF.
- Press and hold the On Line key, and then press the Install Cartridge and Form Feed keys on the operator panel until the light indicators go off.
- Press the On Line key three times.
- A sheet of paper will be fed into the printer and the print test will be executed automatically.

To suspend the print test temporarily, press On Line (pressing this key a second time will cause printing to resume).
Once the test is completed and the sheet of paper is expelled, the printer will go automatically into ON-LINE condition.
Check the print quality of the test, making sure that all the characters are clearly defined and complete.

Emulation : PCL III+ Firmware : Rel. 1.02A XP 30 (21-07-1995)

Print Head Type : 5000 Hz Refill
Print Head Test

Nozzles test Pass

SETUP

EMULATION :	*PCL*
PAPERFORMAT :	*A4*
PAPDEV :	*ASF*
PERSKIP :	*ON*
TEXTSCALE :	*OFF*
INKSAVEMODE :	*OFF*
BIMDENSITY :	*75*
TERMINATOR :	*NORMAL*
QUALITY :	*LQ*
WIDTHTYPE :	*NORMAL*
TYPESTYLE :	*1 COURIER Upright Portrait 10 cpi / 12 pts*
CHARSET :	*1 CP 437 International*

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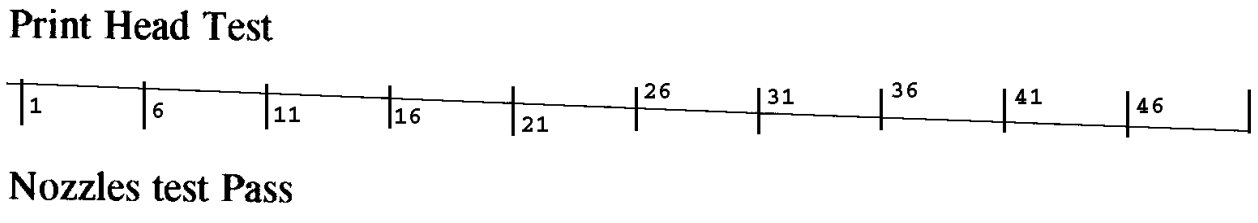
Monochrome print test contents

The monochrome print test contains information on the printer firmware (release, emulation and character generators) and the correct operation of the print head nozzles:

The first line of the print test contains technical information on the printer status.

The second line of print test indicates the print head type.

The third line of the print test (Print Head Test), consists of a diagonal line, indicating the performance of the head nozzles and the result line (Pass, or Fail with the number(s) of the faulty nozzle(s)). It allows you to check whether any dots are missing.



If dots are missing, see the section entitled Clearing the print head nozzles in Chapter 1 for the possible solutions to this problem. Then repeat the print test.

- The rest of the print test contains the currently selected values for the programmable parameters and a print-out of the current selected character set.

In most cases, the parameter settings will be determined by your printer driver. If you wish to modify your printer set-up, see Chapter 4 - "Using Software".

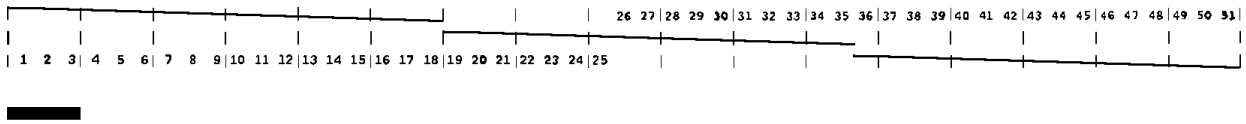
Color print test contents

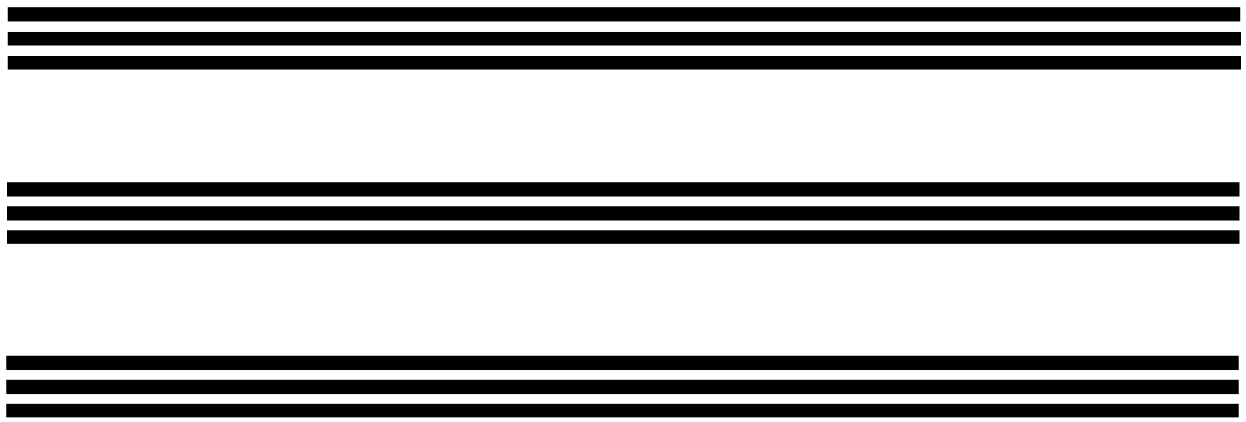
The color print test consists of three bands of color (one for each of the basic colors in the print head) printed three times, preceded and followed by the diagonal line and numbering of the nozzle test which allows you to check the correct operation of each group of nozzles.

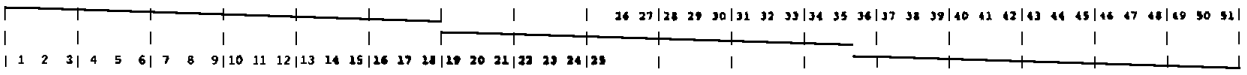
The short colored band under the beginning of the diagonal line of the nozzle test indicates the correct functioning (blue) or not (red) of the print head contacts.

If any nozzle numbers are missing, the nozzles should be cleared (see

Print Head Care in Chapter 2).







If none of these operations result in improved print quality, you must replace the print head.

Printing

During a printing operation, do not stop the print head manually nor touch the area within the print head carriage path.

1. Printer does not print/receive data.

- Check that the printer is connected to the electrical power supply and On Line (the Power and On Line LED's on the operator panel should be lit).
- Check the physical (cables) and logical (application and driver) connections between the printer and host.
- Check that host system is switched on.
- If the print head carriage does not move and the Power and On Line LED's flash rapidly, disconnect and reconnect the printer to the electrical power supply. If the Power and On Line LED's continue to flash rapidly, call the Technical Assistance Service.
- Check that you have removed the protective film from the print head.
- If the Power and On Line LED's flash slowly, check that paper is present and that it loads correctly, then press Install Cartridge.

- Check whether the printer is in the special functions mode (printer powered but both LED's off).

2. Printing stops.

If the On Line and Power LED's flash simultaneously, open the top cover to see which error condition the print head carriage position indicates.

Check that paper is present and that it loads correctly. If there is no paper in the printer, load up to 40 sheets of paper in the ASF and press the Form Feed key on the operator panel.

See Chapter 3 for the correct paper loading procedure.

- Change the print head.

See Chapter 2 for replacing the print head.

3. Poor print quality

- Execute the print head clearing operation to clean the nozzles.

- Try printing on the other side of the paper.

- Make sure you are using good quality paper.

- Check that the print head carriage position lever is compatible with the type of document being printed.

4. Your printer has a color print head, but printing is monochrome.

- Check that your printer driver handles color printing.

5. Strange characters are printed

- Check that you are using the correct emulation.

- Check that the driver you have selected is compatible with the emulation you intend to use.

- Check that the character set you require is selected (the currently selected parameters, including the character set, are given in the monochrome print test - see the previous section of this chapter).

- You have pressed the key combination for the "demo" page, but the print test is printed. Check the emulation currently selected; the "demo" page is available only in PCL III + emulation.

- If you cannot solve this problem, your hot line service may request to run a hex-dump of a test piece to check that the data transmission is operative. To run the hex-dump, proceed as follows:

  - ❖ Press all three keys simultaneously, then press in sequence On Line, Form Feed, Install Cartridge.

  - ❖ Send a short text file from your computer. The content of this file is printed as a string of hexadecimal codes corresponding to the individual characters transmitted.

  - ❖ To exit from hex-dump mode, hold On Line and press Form Feed(RESET).

6. Print test executed correctly, but unable to print in Windows® environment

The printer driver may not be installed correctly.

- Check that the name of the printer appears in the List of printers in the Printers dialogue box:

- If the printer name is not listed, install it following the driver installation procedure described in the Quick Start.

- If the printer name is listed, remove it from the list by clicking on the Remove button in the Printers dialogue box and then repeat the driver installation procedure.

Supplies

The following items can be ordered from your retailer. They are packed individually and have specific instructions booklets.

- Single color print head.
- Single monochrome print head.

The SuperScript 100C is compatible with most inkjet papers (coated and uncoated). For optimum print quality, we recommend the following paper types:

- HP Premium coated inkjet paper
- HP Premium glossy paper.

Printer Settings

This appendix contains a brief description of the printer settings available with the resident emulation's, using the printer setup utility.

Factory Settings

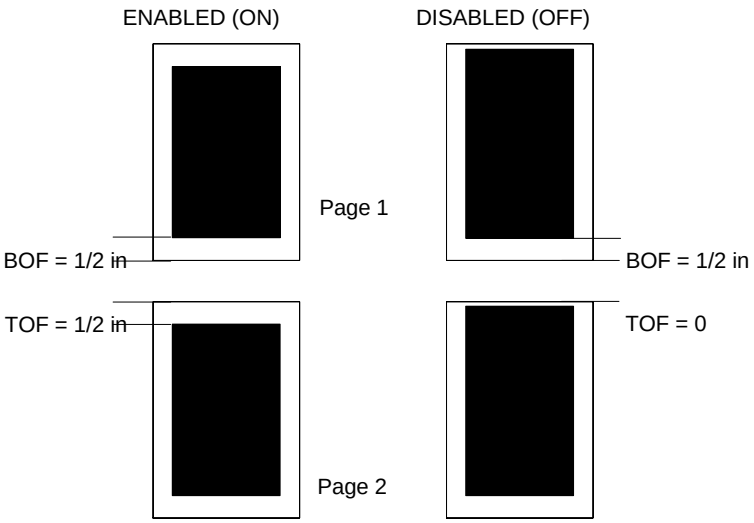
When you receive the printer, its basic operating parameters are already set with pre-defined factory settings (default settings for PCL III+ emulation). These are the settings which appear in the print test the very first time you run it (see specific section in Chapter 5).

Your printer emulation is set to be compatible with the diskette included with your printer. You should not have to vary anything. If you wish to change the emulation, remember to check that it is compatible with your application driver, otherwise your printer will not operate correctly.

Parameter Description

The following tables give a brief description of all the features which can be selected using the printer set-up utility. Where indicated, the features are valid only for a specific emulation.

Feature	Description
Emulation	Set of command codes,, character sets and fonts used: PCL III +; IBM Proprinter X24 4207/1.
Paper Format	Indicates the type and dimensions of the document to be printed: Letter; Legal; A4; horizontal A5; COM10; DL; C5; Executive; Free;C6; B5; B6.
Paper Device	Means by which paper is fed to the printer: ASF.
Perforation skip mode (Skip Over)	Affects only text, introducing a half inch (12.7 mm) no-printing area at the top of each page. In most cases, Perforation skip mode ON will meet your requirements. When Perforation skip mode is ON, a line that overruns the lower limit of the text area will be printed below the top margin of the next page. When Perforation skip mode is OFF, the line will be printed on the first physical print line of the new page.



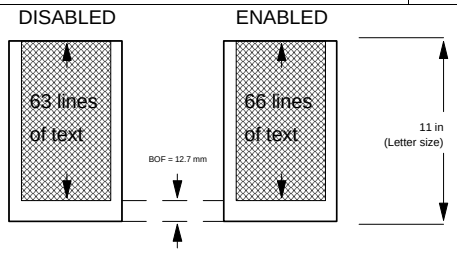
Print Quality	Type of printing quality: LQ (Letter Quality) or Draft.
Graphic resolution (only PCL III +)	Graphic printing resolution (dots per inch - dpi):75; 100; 150; 300.

Line Feed Length (only IBM)	Line Feed Value: nominal distance between the base of one print line and the next. This value may be expressed as a number of lines per inch (lpi) or as an absolute value (inches or millimeters): 6 lpi; 8 lpi; 7/72";5mm
Line Terminator	Normal: CR=CR; LF=LF; FF=FF AutoLF: CR=CR+LF; LF=LF; FF=FF AutoCR: CR=CR; LF=LF+CR; FF=FF+CR AutoCRLF: CR=CR+LF; LF=LF+CR; FF=CR+FF

Character sets	Character Set: set of national or specialized characters/ symbols to be used for printing:
PCL III + emulation:	CP 437 International Roman 8 PC-8 Denmark/Norway CP 850 (multilingual) ECMA 94 Latin 1 ISO 4 United Kingdom ISO 21 Germany ISO 69 France ISO 15 Italy ISO 60 Norway 1 ISO 61 Norway 2 ISO 11 Sweden Names ISO 10 Sweden ISO 17 Spain ISO 6 USASCII ISO 2 IRV ISO 16 Portugal ISO 14 JIS ASCII Legal CP 860 Portugal Danish OPE I UNIX International Danish OPE II Spain II CP 863 French Canadian PC Abicomp International PC Abicomp Portugal
IBM Proprinter X24 4207/1 emulation:	CP 437 International Danish OPE I Danish OPE II Spain II CP 850 (multilingual) CP 860 Portugal

Type Style (Font)	Shape, size, spacing,, etc. of the character/ symbol set printed:
PCL III + emulation:	Courier Upright Portrait 10cpi 12pts Courier Italic Portrait 10cpi 12pts Courier Upright Portrait 16.67cpi 12pts Letter Gothic Upright Portrait 10cpi 12pts Letter Gothic Upright Portrait 12cpi 12pts Letter Gothic Italic Portrait 12cpi 12pts Letter Gothic Upright Portrait 16.67cpi 9.5pts Team Nordic Upright Portrait PS 12pts Team Nordic Italic Portrait PS 12pts BF Team Upright Portrait PS 14pts BF Team Italic Portrait PS 14pts BF Team Upright Portrait PS 12pts BF Team Italic Portrait PS 12pts BF Team Upright Portrait PS 10pts BF Team Italic Portrait PS 10pts BF Team Upright Portrait PS 8pts

IBM Proprinter X24 4207/1 emulation:	BF Team Italic Portrait PS 8pts Linea Upright Portrait PS 14pts Linea Upright Portrait PS 12pts Linea Italic Portrait PS 12pts Linea Upright Portrait PS 10pts Linea Italic Portrait PS 10pts Linea Upright Portrait PS 8pts Courier Upright Landscape 10cpi 12pts Courier Italic Landscape 10cpi 12pts Courier Upright Landscape 16.67cpi 12pts Letter Gothic Italic Landscape 12cpi 12pts Letter Gothic Upright Landscape 16.67cpi 9.5pts Courier Upright Portrait 10cpi 12pts Courier Upright Portrait 12cpi 12pts Courier Upright Portrait 17.14cpi 12pts Courier Upright Portrait PS 12pts Letter Gothic Upright Portrait 10cpi 12pts Letter Gothic Upright Portrait 12cpi 12pts Letter Gothic Upright Portrait 17.14cpi 12pts

Text Scale Mode (only PCL III +)	Affects only text,, reducing automatically the current Line Feed setting to maintain a half-inch (12.7 mm) non-printable area at the foot of the page even for the maximum number of print lines per page. Possible ONLY with portrait orientation selected and the Perforation Skip feature DISABLED
	
Slashed Zero (only IBM)	Indicates whether or not the zero is printed with a diagonal slash: disabled or enabled.
Ink Save Mode	Procedure for reducing the volume of inking on heavily printed pages in BIM mode: disabled or enabled.
Width Type<R> (only PCL III +)	Defines the dimensions of the character/symbol printed, according to the FONT selected (see parameter). Some fonts are not affected: normal; half width; half height; half width and half height.
PC Table (only IBM)	PC Table: determines which area of the currently selected character set table will be used: Table 2 or Table 1.
AGM (only IBM)	Alternative Graphics Mode: additional command codes for printing graphics,, which may be used when the IBM emulation is active: disabled or enabled.

Baud Rate	Data transmission speed: 2400, 9600, 19200, 38400 Baud. This parameter is effective only if the optional serial interface is connected.
Parity	Type of data control method: None, Even, Odd. This parameter is effective only if the optional serial interface is connected.
Handshake	, Type of data exchange procedure: SOFT (Xon/Xoff + DTR) or HARD (DTR). This parameter is effective only if the optional serial interface is connected.

Command Codes

This appendix contains a summary of the command codes sets handled by the resident emulation's

Introduction

When the printer is set for a particular emulation, it will interpret ONLY the set of commands belonging to that emulation.

A printer command consists typically of one or more characters imbedded in the flow of data transmitted to the printer. To make the printer understand which characters are to be interpreted as commands and which as printable characters, there is a simple built-in convention: all "characters" that have, according to the character table, a decimal value less than 32 are interpreted as control codes. Some of them result in an action, when they are received, others do not. The ones causing printer action can be found in the command code description. There is also a special command ESCAPE (decimal code 27, named ESC) which is used by most printer emulation's to open a command sequence. It is followed by one or more additional characters, which are identifiers and parameters, belonging to the printable characters or to those from the range of control codes.

If your printer receives commands which are not compatible with the emulation in use, it will ignore them, print them as normal characters or even block. Whatever happens, no serious harm will be done to your printer. To clear the situation, just reset the printer (hold On Line and press Form Feed for approximately 3 seconds).

PCL III + Multiple ESCape Sequences

If the consecutive ESCape sequences you send to the printer have the same two characters after the character ESC, you can save time by sending a single multiple ESC sequence to the printer. This multiple sequence will consist of the ESC character, the two common character which follow ESC and the remaining characters of each individual command.

E.g.: if you have to send the sequences: ESC (s 3 B, ESC (s 3 T and ESC(s1Q, you can do so using the multiple sequence ESC (s 3 b 3 t 1 Q. Note that the last character of the first two sequences "B" and "T" have become lower case ("b" and "t" respectively), while the last character of the last sequence ("Q") has remained upper-case (indicating, thus, the end of the multiple sequence).

PCL III + Attribute Selection Priority

Font

The font selection MUST ALWAYS be indicated in the following order:

1. Print orientation (PORTRAIT or LANDSCAPE)

2. Character set (CP 437, etc.)

3. Character position on the print line (normal, superscript, subscript)

4. Spacing (fixed or proportional)

5. Print pitch

6. Character height (dots)

7. Style (upright or italic)

8. Stroke weight (medium or bold)

9. Typeface (Courier, etc.)

10. Print quality (DRAFT, NLQ, LQ).

Page layout

The page layout selection MUST ALWAYS be indicated in the following order:

1. Line feed value

2. Page length

3. Top of form value

4. Print area.

Bear these priorities in mind when you send the ESCape sequences for the various parameters, to avoid any surprises.

Command Code Summary

PCL III + Emulation

BASIC OPERATIONS			
BS	8	08	Backspace
HT	9	09	Horizontal Tabulation
LF	10	0A	Line Feed
FF	12	0C	Form Feed
CR	13	0D	Carriage Return
SO	14	0E	Activates Secondary Font
SI	15	0F	Activates Primary Font
SP	32	20	Space
DEL	127	7F	Delete (ignored)

FONTS AND CHARACTER SETS			
ESC (n @	27 40 n 64	1B 28 n 40	Primary Font Definition
ESC (0 @	27 40 48 64	1B 28 30 40	Designates default primary character set as primary font
ESC (1 @	27 40 49 64	1B 28 31 40	Same as for ESC (0 @
ESC (2 @	27 40 50 64	1B 28 32 40	Designates current primary character set as primary font
ESC (3 @	27 40 51 64	1B 28 33 40	Selects the default primary font
ESC) n @	27 41 n 64	1B 29 n 40	Secondary Font Definition
ESC) 0 @	27 41 48 64	1B 29 30 40	Designates the default character set as the secondary font
ESC) 1 @	27 41 49 64	1B 29 31 40	Designates the default primary font as the secondary font
ESC) 2 @	27 41 50 64	1B 29 32 40	Designates the current primary font as the secondary font
ESC) 3 @	27 41 51 64	1B 29 33 40	Selects the default secondary font
ESC & l 0 O	27 38 108 48 79	1B 26 6C 30 4F	PORTRAIT Print Orientation
ESC & l 1 O	27 38 108 49 79	1B 26 6C 31 4F	LANDSCAPE Print Orientation

(continued)

FONTS AND CHARACTER SETS (continued)			
ESC (n m	27 40 n m	1B 28 n m	Primary Character Set Definition
ESC (10 U	27 40 49 48 85	1B 28 31 30 55	CP 437 International
ESC (8 U	27 40 56 85	1B 28 38 55	Roman8
ESC (11 U	27 40 49 49 85	1B 28 31 31 55	PC 8 Denmark/Norwary
ESC (12 U	27 40 49 50 85	1B 28 31 32 55	CP 850 (Multilingual)
ESC (0 N	27 40 48 78	1B 28 30 4E	ECMA-94 Latin 1
ESC (1 E	27 40 49 69	1B 28 31 45	ISO 4 - United Kingdom
ESC (1 G	27 40 49 71	1B 28 31 47	ISO 21- Germany
ESC (1 F	27 40 49 70	1B 28 31 46	ISO 69 - France
ESC (0 I	27 40 48 73	1B 28 30 49	ISO 15 - Italy
ESC (0 D	27 40 48 68	1B 28 30 44	ISO 60 - Norway 1
ESC (1 D	27 40 49 68	1B 28 31 44	ISO 61 - Norway 2
ESC (0 S	27 40 48 83	1B 28 30 53	ISO 11 - Sweden Names
ESC (3 S	27 40 51 83	1B 28 33 53	ISO 10 - Sweden
ESC (2 S	27 40 50 83	1B 28 32 53	ISO 6 - ASCII
ESC (0 U	27 40 48 85	1B 28 30 55	ISO 2 - IRV
ESC (2 U	27 40 50 85	1B 28 32 55	ISO 16 - Portugal
ESC (4 S	27 40 52 83	1B 28 34 53	ISO 14 - JIS ASCII
ESC (0 K	27 40 48 75	1B 28 30 4B	Legal
ESC (1 U	27 40 49 85	1B 28 31 55	CP 860 Portugal
ESC (33 I	27 40 51 51 7	1B 28 33 33 49	Danish OPE I
ESC (35 P	27 40 51 53 80	1B 28 33 35 50	UNIX International
ESC (13 U	27 40 49 51 85	1B 28 31 33 55	Danish OPE II
ESC (34 P	27 40 51 52 80	1B 28 33 34 50	Spain II

ESC (33 P	27 40 51 51 80	1B 28 33 33 50	CP 863 French Canadian
ESC (34 I	27 40 51 52 73	1B 28 33 34 49	PC Abicomp International
ESC (59 P	27 40 53 57 80	1B 28 35 39 50	PC Abicomp Portugal
ESC (60 P	27 40 54 48 80	1B 28 36 30 50	
ESC) n m ...	27 41 n m ...	1B 29 n m ...	Secondary Character Set Definition (values of n and m as for ESC ( )

PRINT ATTRIBUTES			
ESC (s + 1 U	27 40 115 43 49 85	1B 28 73 2B 31 55	Superscripts
ESC (s - 1 U	27 40 115 45 49 85	1B 28 73 2D 31 55	Subscripts
ESC (s 0 U	27 40 115 48 85	1B 28 73 30 55	Clears Superscripts/ Subscripts
ESC (s 0 P	27 40 115 48 80	1B 28 73 30 50	Selects Fixed Horizontal Spacing
ESC (s 1 P	27 40 115 49 80	1B 28 73 31 50	Selects Proportional Horizontal Spacing
ESC (s n H	27 40 115 n 72	1B 28 73 n 48	Defines Fixed Horizontal Pitch
ESC (s 5 H	27 40 115 53 72	1B 28 73 35 48	Selects 5 cpi pitch
ESC (s 6 H	27 40 115 54 72	1B 28 73 36 48	Selects 6 cpi pitch
ESC (s 8.33 H	27 40 115 56 46 51 51 72	1B 28 73 38 2E 33 33 48	Selects 8.33 cpi pitch
ESC (s 10 H	27 40 115 49 48 72	1B 28 73 31 30 48	Selects 10 cpi pitch
ESC (s 12 H	27 40 115 49 50 72	1B 28 73 31 32 48	Selects 12 cpi pitch
ESC (s 16.67 H	27 40 115 49 54 46 54 55 72	1B 28 73 31 36 2E 36 37 48	Selects 16.67 cpi pitch
ESC (s 20 H	27 40 115 50 48 72	1B 28 73 32 30 48	Selects 20 cpi pitch
ESC (s 24 H	27 40 115 50 52 72	1B 28 73 32 34 48	Selects 24 cpi pitch
ESC (s 33.33 H	27 40 115 51 51 46 51 51 72	1B 28 73 33 33 2E 33 33 48	Selects 33.33 cpi pitch
ESC (s n V	27 40 115 n 86	1B 28 73 n 56	Defines Character Height
ESC (s 4.25 V	27 40 115 52 46 50 53 86	1B 28 73 34 2E 32 35 56	Selects 4.25 point char.
ESC (s 6 V	27 40 115 54 86	1B 28 73 36 56	Selects 6 point character
ESC (s 9.5 V	27 40 115 57 46 53 86	1B 28 73 39 2E 35 56	Selects 9.5 point character
ESC (s 12 V	27 40 115 49 50 86	1B 28 73 31 30 56	Selects 12 point character
ESC (s 24 V	27 40 115 50 52 86	1B 28 73 32 34 56	Selects 24 point character

(continued)

PRINT ATTRIBUTES (continued)			
ESC (s 0 S	27 40 115 48 83	1B 28 73 30 53	Upright Print Style
ESC (s 1 S	27 40 115 49 83	1B 28 73 31 53	Italic Print Style
ESC (s 0 B	27 40 115 48 66	1B 28 73 30 42	Medium Stroke Intensity
ESC (s 3 B	27 40 115 51 66	1B 28 73 33 42	Bold Stroke Intensity
ESC (s n T	27 40 115 n 84	1B 28 73 n 54	Defines Character Typeface
ESC (s 3 T	27 40 115 51 84	1B 28 73 33 54	Selects Courier typeface
ESC (s 5 T	27 40 115 53 84	1B 28 73 35 54	Selects Team Nordic tp.
ESC (s 6 T	27 40 115 54 84	1B 28 73 36 54	Selects Letter Gothic tp.
ESC (s 4101 T	27 40 115 52 49 48 49 84	1B 28 73 34 31 30 31 54	Selects BF Team typeface
ESC (s 4148 T	27 40 115 52 49 52 56 84	1B 28 73 34 31 34 38 54	Selects Linea typeface
ESC (s 1 Q	27 40 115 49 81	1B 28 73 31 51	DRAFT Printing
ESC (s 9 Q	27 40 115 57 81	1B 28 73 39 51	DRAFT Printing
ESC (s 2 Q	27 40 115 50 81	1B 28 73 32 51	LETTER QUALITY Printing
ESC & d n D	27 38 100 n68	1B 26 64 n 44	Defines Underscore
ESC & d 0 D	27 38 100 48 68	1B 26 64 30 44	Selects fixed single under- score (default)
ESC & d 1 D	27 38 100 49 68	1B 26 64 31 44	Selects fixed single under- score
ESC & d 2 D	27 38 100 50 68	1B 26 64 32 44	Selects fixed double underscore

ESC & d 3 D	27 38 100 51 68	1B 26 64 33 44	Selects variable single underscore
ESC & d 4 D	27 38 100 52 68	1B 26 64 34 44	Selects variable double underscore
ESC & d @	27 38 100 64	1B 26 64 40	Clears Underscore
ESC & k n E	27 38 107 n 69	1B 26 6B n 45	Underscore for One Line (0=one line;1=continuous)

PAGE FORMAT			
ESC & l n A	27 38 108 n 65	1B 26 6C n 41	Defines Paper Format
ESC & l 0 A	27 38 108 48 65	1B 26 6C 30 41	Selects default paper format
ESC & l 1 A	27 38 108 49 65	1B 26 6C 31 41	Selects US Executive format
ESC & l 2 A	27 38 108 50 65	1B 26 6C 32 41	Selects US Letter format
ESC & l 3 A	27 38 108 51 65	1B 26 6C 33 41	Selects US Legal format
ESC & l 26 A	27 38 108 50 54 65	1B 26 6C 32 36 41	Selects A4 format
ESC & l 29 A	27 38 108 50 57 65	1B 26 6C 32 39 41	Selects horizontal A5 format
ESC & l 81 A	27 38 108 56 49 65	1B 26 6C 38 31 41	Selects COM 10 envelope size
ESC & l 90 A	27 38 108 57 48 65	1B 26 6C 39 30 41	Selects International DL envelope size
ESC & l 91 A	27 38 108 57 49 65	1B 26 6C 39 31 41	Selects International C5 envelope size
ESC & l 92 A	27 38 108 57 50 65	1B 26 6C 39 32 41	Selects International C6 envelope size
ESC & l 94 A	27 38 108 57 52 65	1B 26 6C 39 34 41	Selects International B5 envelope size
ESC & l 95 A	27 38 108 57 53 65	1B 26 6C 39 35 41	Selects International B6 envelope size
ESC & l 93 A	27 38 108 57 51 65	1B 26 6C 39 33 41	Selects US Executive format
ESC & l n L	27 38 108 n 76	1B 26 6C n 4C	Skip over Bottom of Form (1 = enables; 0 = disables)
ESC & l n D	27 38 108 n 68	1B 26 6C n 44	Line Feed (in LPI) n may vary,, compatibly with font used)
ESC & l n C	27 38 108 n 67	1B 26 6C n 43	Line Feed (in n/48 in) ($1 \subseteq n \supseteq 126$)
ESC & l n P	27 38 108 n 80	1B 26 6C n 50	Page Length (n may vary, compatibly with physical page size used)
ESC =	27 61	1B 3D	Half Line Feed Forward
ESC & a n L	27 38 97 n 76	1B 26 61 n 4C	Left Margin ($0 \subseteq n \supseteq 78$; with 10 cpi pitch)
ESC & a n M	27 38 97 n 77	1B 26 61 n 4D	Right Margin ($1 \subseteq n \supseteq 79$; with 10 cpi pitch)
ESC 9	27 57	1B 39	Clears Left and Right Margins
ESC & l n E	27 38 108 n 69	1B 26 6C n 45	Top of Form (TOF) (n= no. of print lines)
ESC & l n F	27 38 108 n 70	1B 26 6C n 46	Print Area Length (n= no. of print lines, compatibly with physical page size less TOF)

VERTICAL POSITIONING OF CURSOR			
ESC & a N R	27 38 97 n 82	1B 26 61 n 52	Positioning on Line "n" (the value of n is limited to the number of lines per page; first print line on page = 0)
ESC & a + n R	27 38 97 43 n 82	1B 26 61 2B n 52	Positioning "n" Lines Forward
ESC & a - n R	27 38 97 45 n 82	1B 26 61 2D n 52	Positioning "n" Lines Back
ESC * p n Y	27 42 112 n 89	1B 2A 70 n 59	Positioning on Dot "n" (the dot positions are numbered from the top margin; one dot

			= 1/300 in)
ESC * p + n Y	27 42 112 43 n 89	1B 2A 70 2B n 59	Positioning "n" Dots Forward
ESC * p - n Y	27 42 112 45 n 89	1B 2A 70 2D n 59	Positioning "n" Dots Back
ESC & a n V	27 38 97 n 86	1B 26 61 n 56	Positioning on Decipoint "n" (the decipoint positions are numbered from the top margin; one decipoint = 1/720 in)
ESC & a + n V	27 38 97 43 n 86	1B 26 61 2B n 56	Positioning "n" Decipoints Forward
ESC & a - n V	27 38 97 45 n 86	1B 26 61 2D n 56	Positioning "n" Decipoints Back

HORIZONTAL POSITIONING OF CURSOR			
ESC & a n C	27 38 97 n 67	1B 26 61 n 43	Positioning First Print Position in Column "n" (the horizontal movement is calculated from the left margin; the number of columns per line depends on the print pitch)
ESC & a + n C	27 38 97 43 n 67	1B 26 61 2B n 43	Positioning "n" Columns to the Right
ESC & a - n C	27 38 97 45 n 67	1B 26 61 2D n 43	Positioning "n" Columns to the Left
ESC * p n X	27 42 112 n 88	1B 2A 70 n> 58	Positioning First Print Position on Dot "n" (the dot positions are numbered from the leftmost print position; one dot = 1/300 in)
ESC * p + n X	27 42 112 43 n 88	1B 2A 70 2B n 58	Positioning "n" Dots to the Right
ESC * p - n X	27 42 112 45 n 88	1B 2A 70 2D n 58	Positioning "n" Dots to the Left
ESC & a n H	27 38 97 n 72	1B 26 61 n 48	Positioning first print position on decipoint "n" (the decipoint positions are numbered from the leftmost print position; one dot = 1/300 in)
ESC & a + n H	27 38 97 43 n 72	1B 26 61 2B n 48	Positioning "n" Decipoints to the Right
ESC & a - n H	27 38 97 45 n 72	1B 26 61 2D n 48	Positioning "n" Decipoints to the Left
ESC & k n H	27 38 107 n 72	1B 26 6B n 48	Horizontal Motion Index (HMI) n/120

GRAPHIC PRINTING

ESC * t n R	27 42 116 n 82	1B 2A 74 n 52	Graphic Resolution
ESC * t 75 R	27 42 116 55 53 82	1B 2A 74 37 35 52	75 dpi print density
ESC * t 100 R	27 42 116 49 48 48	1B 2A 74 31 30 30	100 dpi print density
ESC * t 150 R	82	52	150 dpi print density
ESC * t 300 R	27 42 116 49 53 48	1B 2A 74 31 35 30	300 dpi print density
	82	52	
ESC * r n S	27 42 116 51 48 48	1B 2A 74 33 30 30	Graphic Printing Width
	82	52	(n depends on the width of the image created and is limited by
	27 42 114 n 83	1B 2A 72 n 53	the page width)
ESC * b 0 M			Normal Graphic Printing
ESC * b 1 M			Compacted Mode 1
ESC * b 2 M			Compacted Mode 2
ESC * b 3 M	27 42 98 48 77	1B 2A 62 30 4D	Compacted Mode 3
ESC * b 9 M	27 42 98 49 77	1B 2A 62 31 4D	Compacted Mode 9
	27 42 98 50 77	1B 2A 62 32 4D	
ESC * r n Q	27 42 98 51 77	1B 2A 62 33 4D	Graphic Printing Quality
ESC * r 0 Q	27 42 98 57 77	1B 2A 62 39 4D	Default value (LQ)
ESC * r 1 Q			Draft
ESC * r 2 Q	27 42 114 n 81	B 2A 72 n 51	Letter Quality
	27 42 114 48 81	1B 2A 72 30 51	
ESC * r n A	27 42 114 49 81	1B 2A 72 31 51	Start Graphic Printing (n = 0,
	27 42 114 50 81	1B 2A 72 32 51	start at left margin; n= 1, start at current cursor
ESC * b n W..	27 42 114 n 65	1B 2A 72 n 41	position)
			Send Data for Graphic Printing (n is the data for one pixel
	27 42 98 n 87 ..	1B 2A 62 n 57 ..	raster row)
ESC * b n X			
			Horizontal (X) Offset (n is a number of blank dots - a
	27 42 98 n 88	1B 2A 62 n 58	multiple of eight - inserted, starting from the left hand margin, at the beginning of the raster row; one dot = 1/300 in)
ESC * b n Y			
			Vertical (Y) Offset(n is a number of blank dots - a
	27 42 98 n 89	1B 2A 62 n 59	multiple of eight - inserted before the raster row,, starting from the top margin; one dot =
ESC * r B			1/300<N>in)
			End Graphic Printing
	27 42 114 66	1B 2A 72 42	

OTHERS			
ESC E	27 69	1B 45	Logical Reset
ESC z	27 122	1B 7A	Autodiagnostics
ESC Y	27 89	1B 59	Code Printing
ESC Z	27 90	1B 5A	Disables Code Printing
ESC & p n X ..	27 38 112 n 88..	1B 26 70 n 58 ..	Transparent Printing Mode (0 n3 2,767)
ESC & s n C	27 38 115 n 67	1B 26 73 n 43	Wrap Around (n = 0, enables; n = 1,disables)
ESC & k n G	27 38 107 n 71	1B 26 6B n 47	Print Line Closure<R>
ESC & k 0 G	27 38 107 48 71	1B 26 6B 30 47	CR=CR; LF=LF; FF=FF
ESC & k 1 G	27 38 107 49 71	1B 26 6B 31 47	CR=CR+LF; LF=LF; FF=FF
ESC & k 2 G	27 38 107 50 71	1B 26 6B 32 47	CR=CR; LF=LF+CR; FF=FF+CR
ESC & k 3 G	27 38 107 51 71	1B 26 6B 33 47	CR=CR+LF; LF=LF+CR; FF=FF+CR
ESC & k n F	27 38 107 n 70	1B 26 6B n 46	SO/SI enabled for One Line (n = 0,, SO/SI enabled for one line; n<N>=<N>1,, standard function for SO/SI)
ESC & k n W	27 38 107 n 87	1B 26 6B n 57	Print Direction
ESC & k 0 W	27 38 107 48 87	1B 26 6B 30 57	Left to right
ESC & k 1 W	27 38 107 49 87	1B 26 6B 31 57	Bi-directional

ESC & k 2 W	27 38 107 50 87	1B 26 6B 32 57	Right to left
ESC & k 2 W	27 38 107 n 87	1B 26 6B 32 57	Text Scaling (n = 5,, Text scaling disabled; n = 6,, Text scaling enabled)
ESC & l 0 H	27 38 108 48 72	1B 26 6C 30 48	Paper Expulsion
ESC & l 1 H	27 38 108 49 72	1B 26 6C 31 48	Paper Feed from Paper Tray
ESC & l 3 H	27 38 108 51 72	1B 26 6C 33 48	Manual Paper Feed (only sheet)
ESC * p n N	27 42 112 n 78	1B 2A 70 n 4E	Graphic Printing Direction
ESC * p 0 N	27 42 112 48 78	1B 2A 70 30 4E	Default
ESC * p 1 N	27 42 112 49 78	1B 2A 70 31 4E	Bi-directional
ESC * p 2 N	27 42 112 50 78	1B 2A 70 32 4E	Left to right
ESC * p 3 N	27 42 112 51 78	1B 2A 70 33 4E	Right to left
ESC * p 4 N	27 42 112 52 78	1B 2A 70 34 4E	Smart bi-directional

COLOR PRINTING			
ESC * b n V	27 42 98 n 86	1B 2A 65 n 56	Data Transfer in Planes (n = number of bytes of binary data to be sent to the printer.)
ESC * r n U	27 42 114 n 85	1B 2A 72 n 55	Selects Monochrome/color Printing
ESC * r -3 U	27 42 114 45 51 85	1B 2A 72 2D 33 55	Selects color palette: cyan, magenta, yellow
ESC * r 0 U	27 42 114 48 85	1B 2A 72 30 55	Selects monochrome printing
ESC * r 1 U	27 42 114 49 85	1B 2A 72 31 55	Selects monochrome printing
ESC * r 3 U	27 42 114 51 85	1B 2A 72 33 55	Selects color palette: red, green, blue
ESC * o n D	27 42 111 n 68	1B 2A 6F n 44	Image Depletion
ESC * o 1 D	27 42 111 49 68	1B 2A 6F 31 44	No depletion
ESC * o 2 D	27 42 111 50 68	1B 2A 6F 32 44	25% depletion
ESC * o 3 D	27 42 111 51 68	1B 2A 6F 33 44	50% depletion
ESC * o n Q	27 42 111 n 81	1B 2A 6F n 51	Shingling
ESC * o 0 Q	27 42 111 48 81	1B 2A 6F 30 51	No shingling
ESC * o 1 Q	27 42 111 49 81	1B 2A 6F 31 51	50% shingling (2 passes)
ESC * o 2 Q	27 42 111 50 81	1B 2A 6F 32 51	25% shingling (4 passes)

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BASIC OPERATIONS			
BS	8	08	Backspace
HT	9	09	Horizontal tabulation
LF	10	0A	Line Feed
VT	11	0B	Vertical Tabulation
FF	12	0C	Form Feed
CR	13	0D	Carriage Return
SP	32	20	Space
MARGINS			
ESC X n1 n2	27 88	1B 58 ..	Left and Right Hand Margins
ESC C n	27 67 ..	..	Page Length in No. of Lines
ESC C NUL n	27 67 0 ..	1B 43 ..	Page Length in Inches
ESC 4	27 52	1B 43 00	Top of Form
ESC N n	27 78 ..	..	Bottom of Form
ESC O	27 79	1B 34 1B 4E .. 1B 4F	Clears Bottom of Form
LINESPACING			
ESC 0	27 48	1B 30	Line Feed Value 1/8 in
ESC 1	27 49	1B 31	Line Feed Value 7/72 in
ESC 2	27 50	1B 32	Executive command for ESC A or Line Feed Value 1/6 in Line Feed Value n/216 in
ESC 3 n	27 51 ..	1B 33 ..	Line Feed Value n/72 in
ESC A n	27 65 ..	1B 41 ..	n/216 Line feed (graphic line spacing)
ESC J n	27 74 ..	1B 4A ..	Line feed value variation
ESC [\	27 91 92 ...	1B 5B 5C	

		...	

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PRINT ATTRIBUTES			
ESC G	27 71	1B 47	Letter Quality Mode
ESC H	27 72	1B 48	DRAFT Mode
ESC I n	27 73 ..	1B 49 ..	Print Mode (multi-choice)
SO	14	0E	Double Width Print (one line)
DC4	20	14	Clears Double Width Mode (one line)
ESC W n	27 87 ..	1B 57 ..	Double Width Mode (continuous)
ESC [@ ...	27 91 64 ...	1B 5B 40 ...	Double Height/Width
ESC E	27 69	1B 45	Sets Boldface Mode
ESC F	27 70	1B 46	Clears Boldface Mode
ESC - n	27 45 ..	1B 2D ..	Underscore Mode
ESC _ n	27 95 ..	1B 5F ..	Overscored Mode
ESC S n	27 83 ..	1B 53 ..	Superscript/Subscript printing
ESC T	27 84	1B 54	Clears Superscript/Subscript
TABULATION			
ESC D ..NUL	27 68 .. 0	1B 44 .. 00	Horizontal Tabulation Program<R>
ESC B ..NUL	27 66 .. 0	1B 42 .. 00	Vertical Tabulation Program<R>
ESC R	27 82	1B 52	Clears all Tabulation Stops
GRAPHICS			
ESC K n1 n2	27 75 ...	1B 4B ...	Normal Density BIM Printing
ESC L n1 n2	27 76 ...	1B 4C ...	Double Density BIM Printing
ESC Y n1 n2	27 89 ...	1B 59 ...	Double Density BIM printing
ESC Z n1 n2	27 90 ...	1B 60 ...	Quadruple Density BIM Printing
ESC [g	27 91 103	1B 5B 67	High resolution graphics
AGM (Alternative Graphics Mode)			
ESC 3 n	27 51 ..	1B 33 ..	Line Feed Value n/180 in
ESC J n	27 74 ..	1B 4A ..	Single n/180 in Line Feed (graphics line spacing)
ESC A n	27 65 ..	1B 41 ..	Line Feed Value n/60 in
ESC * m	27 42 ..	1B 2A ..	Immediate BIM selection
DATA CONTROL			
ESC 5 n	27 53 ..	1B 35 ..	Automatic Line Feed
ESC U n	27 85 ..	1B 55 ..	Mono-/Bi-directional Printing
ESC 6	27 54	1B 36	Extended Character Set
ESC 7	27 55	1B 37	Reduced Character Set
ESC \ n1 n2	27 92 ...	1B 5C ...	Transparent Printing (several chars.)
ESC ^	27 94	1B 5E	Transparent printing (single char.)
OTHERS			
ESC d n1 n2	27 100 ...	1B 64 ...	Relative Horizontal Positioning

Product Characteristics

Printing Technique
Non-impact, bubble ink jet, with water-resistant ink

Colour Ink Cartridge
(or optional black ink cartridge)

Throughput

Windows® or OS/2 environments up to 3 pages per minute (ppm)

DOS and similar environments:
200 cps in Draft (10 cpi)
150 cps in LQ

N.B.: these values may vary depending on the print mode (Draft/LQ), the software application and/or the type of computer used.

Paper Handling
Automatic sheet feeder (ASF)

ASF Capacity
Plain paper : up to 40 sheets (21 lbs sheets)

Paper Format

Single sheets:
A4 (210 mm x 297 mm)
Horizontal A5 (210 mm x 148.5 mm)
U.S. Letter (8.5 in x 11 in)
U.S. Legal (8.5 in x 14 in)
U.S. Executive (7.25 in x 10.5 in)

Envelopes:
COM-10 (9.5 in x 4.124 in)
DL (220 mm x 110 mm)
C5 (229 mm x 162 mm)
C6 (162 mm x 114 mm)
B5 (250 mm x 176 mm)
B6 (176 mm x 125 mm)

Paper Type
Plain office paper
Transparencies (e.g. 3M CG-3480)
Glossy/coated papers
Envelopes

Paper Weight
Single sheets 15.5 to 28 lbs.
Envelopes: 18 to 25 lbs.

Paper Width
Max. 8.66 in (220 mm)
Graphic Density
75, 100, 150, 300 dpi, and up to 600 dpi in monochrome

Resident Emulation's
PCL III + - default;
IBM Proprinter X24 4207/1

Resident Fonts

PCL III +
- Courier:
orientation: Portrait and Landscape
pitch: 5, 8.33, 10, 16.67, 20, 33.34 cpi
size: 6, 12 points
style: Upright (Italic 5, 10, 20 cpi)

- Team Nordic:
orientation: Portrait

pitch: Proportional
size: 6, 12 points
style: Upright and Italic

- Letter Gothic:
orientation: Portrait and Landscape
pitch: 5, 6, 8.33, 10, 12, 20, 24, 33.34 cpi
size: 4.75, 6, 9.5, 12 points
style: Upright (Italic 12, 24 cpi; 12 points)

- BF Team:
orientation: Portrait
pitch: Proportional
size: 8, 10, 12, 14 points
style: Upright and Italic

- Linea:
orientation: Portrait
pitch: Proportional
size: 8, 10, 12, 14 points
style: Upright (Italic 10, 12 points)

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- Courier:
orientation: Portrait
pitch: 10, 12, 17.14, PS
size: 12 points
style: Upright

- Letter Gothic:
orientation: Portrait
pitch: 10, 12, 17.14, PS
size: 12 points
style: Upright
Character Sets

PCL III +
CP 437 International; Roman 8; PC 8 Denmark/ Norway; CP 850 Multilingual; ECMA-94 Latin 1; ISO 4 -United Kingdom; ISO 21 - Germany; ISO 69 - France; ISO 15 - Italy; ISO 60 - Norway 1; ISO 61 - Norway 2; ISO 11 - Sweden Names; ISO 10 - Sweden; ISO 17 - Spain; ISO 6 - ASCII; ISO 2 - IRV; ISO 16 - Portugal; ISO 14 - JIS ASCII; Legal; CP 860 Portugal; Danish OPE I; UNIX International; Danish OPE II; Spain II; CP 863 French Canadian; PC Abicomp International; PC Abicomp Portugal

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International 1; International 2; Denmark OPE 1; Denmark OPE 2; Spain 2; CP 850; CP 860

Interface
Parallel (Centronics)

RAM
128K bytes

Operating Environment
Temperature: 5 to 35°C
Relative Humidity: 15% - 85%

Sound level
48 dB in LQ printing mode

Product Certification

For USA and Canada<D><R>

Safety regulations:
USA: UL 1950
Canada: CSA C22-2

Electromagnetic compatibility:
FCC part 15 Class B

Electrical Characteristics

110 - 120 V, +/- 10%; 50 - 60 Hz

Physical Characteristics

Printer ready for use

Height	14.17 in (360 mm)
Width	14.76 in (375 mm)
Depth	7.87 in (200 mm)
Weight	4.84 lbs. (2.2 kg)

Getting Service and Support

Getting Help from NEC

Printer Technical Support is available Monday through Friday, between the hours of 8:30AM and 8:00PM (Eastern Standard Time) at 1-800-632-4650. Technical support for this printer is provided free of charge during the one year factory warranty.

Information regarding out-of-warranty repair is available by calling the National Service Response Center at 1-800-632-4650.

You may also send electronic mail to support via the following methods:
Internet address: tech-support@nectech.com
AOL keyword: NECTECH
Microsoft Network: NECTECH

You will always be required to provide information regarding where and when the printer was purchased, regardless of whether we have received your warranty card.

SuperScript 100C Printer Limited Warranty

The SuperScript 100C is warranted for one year from date of purchase under the NEC SuperScript Limited Warranty. The warranty works as follows:

- The Customer calls NEC Customer Service and Support at 800-632-4650.
- A recorded message will provide a list of various service and support departments. Press the correct number for Technical Support.

(Note: Many times a simple problem can be averted by speaking with a technical support representative first).If it is determined that the printer is defective, the support representative will transfer you to another department to set up the warranty exchange process.

SuperScript 100C Printer Limited Warranty

If you wish to receive a replacement printer by overnight delivery, the service representative will obtain a major credit card number from you, along with your shipping address. An electronic credit check will be made in the amount of the current price of the printer. If the defective printer is not returned to NEC within 15 days, or you cannot prove that your printer is still under warranty, your account will be debited in this amount.

You must return the defective printer, properly packaged in the original or replacement printer packaging, within fifteen (15) days or your credit card account will be debited for the current price of the the SuperScript 100C.

If you do not wish to provide a credit card number to NEC, the service representative will provide you with an MRA (Material Return Authorization) number for return of the defective printer at your own expense. You must package the printer in its original packaging, or equivalent, mark the package with the MRA number, and return it to the address provided. Upon receipt of the defective printer, NEC will ship a replacement by overnight delivery.

Warranty

NEC TECHNOLOGIES, INC. (hereinafter NECTECH) warrants this Product to be free of defects in material and workmanship and agrees to repair or replace any part of the enclosed unit which proves defective under these terms and conditions.

Warranty Length

Labor is warranted for one (1) year from the date of the first consumer purchase. Parts are warranted for one (1) year from the date of the first consumer purchase.

Warranty Coverage

This warranty may be enforced only by the first consumer purchaser and it is not transferable.

Except as specified below, this warranty covers all defects in material or workmanship in this Product. The following are not covered by this warranty:

1. Any Product which is not distributed in the U.S.A. or Canada by NECTECH or which is not purchased in the U.S.A. or Canada by the first consumer purchaser.

2. Any Product on which the serial number has been defaced, modified or removed.

3. Damage, deterioration or malfunction resulting from:

a) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature, improper storage, unauthorized Product modification, or failure to follow instructions supplied with the Product.

b) Alteration, repair or attempted repair by anyone not authorized by NECTECH.

c) Any shipment of the Product (claims must be presented to the carrier).

d) Removal or installation of the Product.

e) Any other cause which does not relate to a Product defect.

4. Cartons, carrying cases, batteries, external cabinets, magnetic tapes, or any accessories used in connection with the Product.

5. This warranty covers only NECTECH-supplied components. Service required as a result of third party components is not covered under this warranty.

Warranty Support

NECTECH will pay labor and material expenses for covered items, but we will not pay for the following:

1. Removal or installation charges.

2. Costs of initial technical adjustments (set-up), including adjustment of user controls.

3. Payment of shipping and related charges incurred in returning the Product for warranty repair.

Getting Warranty Service

You must return this Product directly to NECTECH factory for warranty service. It shall be your obligation and expense to ship the Product, freight prepaid, or to deliver it to a NECTECH authorized service center or other facility uthorized by NECTECH to render the warranty services, in either the original package or a similar package affording an equal degree of protection.

NECTECH will send a replacement printer which will be, at NECTECH's option, new or like new, and will meet all of the specification of the replaced printer. The replacement printer will be shipped to you at NECTECH's expense by overnight delivery within the United States, upon receipt of your defective printer, or upon receipt of a major credit card number to guarantee receipt of the defective printer. The warranty period on any replacement printer shall be either (1) the remaining balance of the original one (1) year term, or (2) ninety (90) days, whichever is longer. With the exception of the duration, the terms and conditions of this warranty shall apply to any replacement printer.

NECTECH may require that you provide the original bill of sale or receipt as proof of purchase in order to obtain warranty service. Please retain such proof of purchase with your records.

Limitation of Damages and Implied Warranties

NECTECH'S SOLE LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT AT OUR OPTION. NECTECH SHALL NOT BE LIABLE FOR:

1. DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THIS PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME OR DATA, COMMERCIAL LOSS; OR

2. ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE.

THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES OR THE LIMITATION OR EXCLUSION OF LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. THEREFORE, THE ABOVE EXCLUSIONS OR LIMITATIONS MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

For information, telephone 1-800-xxx-xxxx.

Note: All Products returned to NECTECH for service MUST have prior approval; this may be obtained by calling the above number.

This Product is warranted in accordance with the terms of this limited warranty. Customers are cautioned that Product performance is affected by system configuration, software, the application, customer data, and operator control of the system, among other factors. While NEC TECHNOLOGIES, INC. Products are considered compatible with many systems, the specific functional implementation by customers of the Product may vary. Therefore, the suitability of a Product for a specific purpose or application must be determined by the customer and is not warranted by NECTECH.

ASCII-table	American Standard Code of Information Interchange); standardized code and character assignment table from 0 to 127 decimal.
ASF	(Automatic Sheet Feeder); paper insertion device incorporated in the upper rear part of the printer.
BIM	(Bit Image Mode); graphic printing mode, in which a byte is not interpreted as character. Its bits cause the individual nozzles of the print head to print or not.
bit	Smallest information item; a signal set to 0 or 1. Eight bits make one byte (character).
BOF	(Bottom Of Form); the area at the foot of each form, in which printing will not be possible (it will be skipped automatically).
buffer	Built-in memory in the printer, in which data will be stored until it is printed.
byte	Standard unit for character/symbol representation. A byte consists of 8 bits.
character generator	A resident printer program, which converts a character code (byte) into a pixel matrix for printing.
character set	Assignment table between a code and a specific printable character (usually in connection with national languages).
compressed printing	See "condensed printing"
condensed printing	A print mode which normally has a character spacing density higher than 12 cpi (16.6 or 20 cpi).
cpi	Characters per inch; indicates the number of characters which can be printed in one inch.
dB (decibel)	Unit of measurement for sound.
default	The standard initial setting of a feature or a parameter. Can usually be modified.
dot matrix	Printing technology which creates characters (and graphics) by the composition of programmed columns of dots.
dot size	Size of the smallest element used to create the character image (default value: 1/72 in).
double width printing	Each character (even SPACE) is stretched horizontally to double the nominal pitch width.
driver	Software program which controls output to the printer and does necessary code conversions between application program and printer.
economy print mode	Low dot resolution print mode. Allows ink saving.
elementary spacing	Smallest possible horizontal or vertical movement of the print head.
emulation	Set of commands that can be interpreted by the printer and/or driver
ESCAPE character	The special character with the decimal value 27 (ESC), which tells the printer that the following character(s) form a control sequence.
ESCAPE sequence	A set of characters, starting with the ESC character, which controls an action of the printer as defined by its emulation.
factory settings	Printer settings defined by the manufacturer; also known as default settings (see item).
firmware	The built-in control intelligence of the printer which cannot be changed by the user.
font	A set of characters available in a certain typeface and size (see also items "cpi" and "point size").
handshaking	The signal exchange between the printer and the controlling system, which regulates the loading of data to the printer's buffer and avoids overflow of this buffer.
hexdump	A printing mode in which the transmitted characters (and also control codes) are printed as two digit hexadecimal codes. Used for debugging.
initialization	The process at printer switch-on in which the printer executes an automatic self-diagnosis of its hardware and loads the settings as defined in programming (set up). Reset by command also causes (re-)initialization of the printer (but without hardware check).
interface	Physical (with cable) and logical (synchronization and interpretation of signals) connection of the printer with

	a host system/computer.
ISO table	(International Standardization Organization); a convention which assigns to certain ASCII codes (see item) a one-per-nation set of special European characters.
landscape	Page orientation in which the characters are printed along the long side of the paper.
LED	(Light Emitting Diode); indicator which lights up on the printer operator panel.
line buffer	The RAM memory of the printer where incoming data is stored until it is processed. The filling of the line buffer is controlled by the handshaking (see item) procedure of the transmission protocol.
LOCAL condition	Another word for the printer Off-Line state (see item).
off-line	Printer operating condition in which data and commands via interface are accepted until the input buffer is full, but are not executed. It permits the execution of operations commanded via the operator panel.
on-line	Operating condition in which the printer is completely controlled by its host.
parallel interface	A means of connecting the printer to a computer with a defined standard plug and pin assignment . Data is transmitted by 8 "parallel" lines, i.e. one complete byte at a time.
parameter	A command or feature, the value of which may be varied (see setting).
PCL commands	(Printer Command Language); one of the resident emulation's. A proprietary name of Hewlett-Packard.
pitch	The character spacing measured in characters per inch.
portrait	Page orientation in which the characters are printed across the short side of the paper.
print buffer	An intermediate buffer in which data coming from the line buffer is stored, until the transmission of a code which commands printing.
print quality	LQ (Letter Quality); printing with a high character definition which approaches solid character profiles. Draft; printing with reduced character definition, to give a higher print speed.
proportional printing	A print mode in which the print head movement is proportional to the width of the character printed. Lines of the same length may therefore contain different numbers of characters.
RAM	(Random Access Memory); a memory area which may be written to repeatedly, e.g. the print buffer (volatile, i.e. loses contents when overwritten or at printer switch-off).
release X.X	Indicates the version/updating level of the firmware and driver.
reset	Commands the printer to clear the buffer and all temporary settings, returning to an initial switch-on state.
resolution	Print density defined as the number of dots printed per inch .
ROM	(Read Only Memory); a memory area which can be read (used) but not modified and contains e.g the built-in character generator, command code emulation etc. (not volatile).
scalable font	A file containing the basic elements of a set of characters the size of which can be enlarged and/or reduced (within the specifications indicated) by the user.
setting	The value of a parameter, command or feature.
SET-UP	An operating procedure in which it is possible to define the printer parameter settings and memorize them.
standby	Printer status in which the printer is powered but dormant. Occurs after a certain period of inactivity.
subscript	A print mode in which the characters are printed in reduced size in lower half of character frame.
superscript	A print mode in which the characters are printed in reduced size in upper half of character frame.
throughput	The optimum average output (in pages per minute) of the printer.

TOF	(Top Of Form); the space on top of a form in which printing is not possible. Will be skipped automatically on the execution of an FF.
user settings	Parameter values defined by the user.
word length	(7 or 8 bits); refers to the format in which a byte of data is transmitted to and interpreted by the printer.